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Transmitted by Max F. Baer

ECONOMIC REPORT OF THE PRESIDENT

Now available: There's wealth of economic and social facts about United States in Economic Report of President, transmitted to Congress in January. You can get copy from Government Printing Office, Washington 25, D. C., at 65 cents. We give you here a few of these facts.

Population projections: Latest illustrative projections of total population point to range of 206.9 to 228.5 million in 1975. By 1961 number of children aged 5 will be about twice number before World War II. By 1968 number aged 12 will be double what it was in late 1940's. By 1965 number of 18-year-olds will be more than double 1955 figure.

Projections for young women: Projections of number of women aged 20 gives some clue to future course of first marriages, since 20.1 years has recently been median age at first marriage. After declining for several years, number of women aged 20 has recently begun to increase and by 1975 number is expected to be nearly double low figure of 1954. Number of women aged 20-34 is of special importance for population forecasts, since this is group in which number of births is greatest. Projected number for 1975 is 38 per cent above high figure for 1950.

Income goes up: Between 1946 and 1956 per capita personal income, in 1956 prices, rose from $1,753 to $1,935. From 1947 to 1955 average family personal income, after taxes, in 1956 prices, rose from $4,520 to $5,050. Percentage drawing $5,000 and over moved up from 10.8 to 23.0, but in current prices.

A look at earnings: During past ten years average gross hourly earnings of production workers in manufacturing industries, in 1956 prices, moved up from $1.52 to $1.98. Average gross weekly earnings rose from $61.03 to $80.13.

More vacations: During past decade number of weeks of vacations jumped from 34.4 to 70.0 million. About 85 per cent of vacations in 1956 were estimated to be with pay.

Car and home ownership: From 1948 to 1956 per cent of all families owning autos increased from 54 to 73. From 1947 to 1956 per cent of owner-occupied dwelling units rose from 55 to 60.

Electrical appliances: From 1948 to 1956, following gains were scored in per cent of wired homes with selected appliances: Television sets, from 2.9 to 81.0; refrigerators, from 76.6 to 96.0; freezers, from 4.3 to 18.0; vacuum cleaners, from 51.7 to 66.7; electric washers, from 67.4 to 86.8; dryers, from 0.4 to 11.9; air conditioners, from 0.3 to 7.6.

COLLEGE ENROLLMENTS

Up for fifth consecutive year: According to Office of Education, record of 2,947,000 students enrolled last fall in 1,852 institutions of higher education. This is 10 per cent above last year and 39.2 per cent above 1951. Additional enrollments during school year are expected to boost total to about 3 1/4 million.

Big ten: Ten schools reporting largest enrollments are: University of California, all campuses (but not extension enrollment), 40,788; University of Minnesota, all campuses, 36,303; New York University, 31,203; City College of New York, 28,178; State University of New York, all campuses (but not ag. and tech. institutes) 27,566; Columbia University, 26,966; University of Illinois, 26,471; University of Michigan, 25,153; University of Wisconsin, all campuses, 24,442; and Ohio State University, 22,470.

Engineering enrollment up: Total engineering enrollment reached new all-time high, increasing over last year by 13.8 per cent. Total engineering enrollment is now 277,052 compared with the 165,637 in 1951.

STATISTICS IN THE NEWS

Farm population down: Between 1910 and 1956 American farm population sank from 32.1 to 22.3 million. During same period, country's total population swelled from 91.9 to 167.4 million. Although number of working farmers and their paid workers fell from 10 million in 1940 to 6.5 million in 1956, 1956 was one of greatest harvest years in history of country. (From speech of E. L. Keenan, Deputy Director, Bureau of Employment Security.)

About people: There are 14.5 million persons over 65 years old and they are increasing by 1,000 daily. About one-third of men in this age group are working, while only about 10 per cent of women are employed. Due to health measures, there are not more than 60,000 children in USA, both of whose parents have died. There are 5,000 persons in USA over 100 years of age! (From speech of Charles I. Schottland, Commissioner of Social Security.)

REALISM OF VOCATIONAL CHOICE: A Critique and an Example

A CONSIDERABLE AMOUNT of research has been conducted by psychologists, educators, and personnel specialists in the field of youth's occupational choice [*1, 3, 6, 8, 13*]. Although these studies embrace a relatively extended time span and include varying geographic regions in the United States, generalizations derived from them tend to be consistent insofar as the pattern of choice is concerned. These generalizations may be summed up in the following four conclusions: (1) A large percentage of every pre-work age group has made no occupational choice whatsoever; (2) For those who do make an occupational choice, there is a strong tendency to select from a narrow range of occupational titles; (3) These occupational choices are largely in the upper range of the occupational hierarchy, with a high percentage in the professions; (4) The distribution of occupational choices has very little correspondence either to the national or local distribution of job opportunities or to the fathers' occupation.

These observations are familiar to anyone working in the field of vocational guidance, and literature in the area makes much of the student's lack of realism in choosing a vocation. Indeed, this is perceived by some as a principal reason for the necessity of more adequate vocational guidance in the school system. However, although there is little doubt concerning the validity of such findings, a number of questions are raised concerning the research techniques used in obtaining occupational choice and the interpretation of the findings.

First, taking the findings of occupational choice studies as given, the following observations concerning their implications seem pertinent. While anywhere from 25 to 35 per cent of youths apparently are unable to state an occupational choice, this is not necessarily dysfunctional for future occupational adjustment. Indeed, freezing of choice at an early age or even during the first two years of college may preclude an appropriate occupational choice in terms of the individual's needs and the demands of the society.[1] Certainly a great deal more careful research on the actual occupational adjustment of "don't knows" is needed before it can be concluded that those who state a choice are better oriented than those who do not. Furthermore, the vital questions of "who" and "why" are seldom asked concerning those who do not state a job choice. For example, available evidence indicates it is the lower class youth who is least able to state a choice [*9*]. This suggests that differential opportunity and socialization may play important roles in lack of occupational orientation rather than (or at least in addition to) inadequacy of vocational knowledge or guidance. A lower class student who doesn't know what he wants to be may be indicating his perception that the total range of occupations is not open to him and that whatever may be available in the narrow range doesn't make much difference to him.

Somewhat the same may be said of the fact that students mention only a small percentage of the thousands of jobs listed in *The Dictionary of Occupational Titles.* It is unlikely that anyone other than the specialist is acquainted with any but a few of these occupations. This raises the question as to just what an occupational choice

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[1] Harry Beilin, "The application of general development principles to the vocational area." *J. Couns. Psychol.*, 1955, *2*, 53–57. Beilin's distinction between "occupational choice" and "vocational development" emphasizes the evolutionary nature of occupational orientation. The developmental sequence leading to occupational selection is discussed in detail by both Ginsberg and Super [*8, 13*].

means to the student stating it. Probably a specific occupational title has a good deal more meaning to an adult as a bench-mark for judging position in the occupational hierarchy than it does as a descriptive title of one of a vast series of alternative choices in the division of labor. It seems likely that the specific occupations mentioned by students also serve this bench-mark function. As such, it is not surprising that so few specific occupations are stated.

Factors Affecting Stated Choice

This observation is closely linked to the fact that students tend to restrict their choices to a very few occupations within this narrow range. Generally speaking, such choices reflect the high prestige which these occupations have in the eyes of the adult world. A comparison of students' occupational orientation with studies of adult ratings of the desirability of occupations will show a close correspondence between youths' most frequent vocational choices and occupations rated high on a prestige scale by adults.[2] Since such a distribution of choice bears little relationship to the actual occupational structure, the conclusion has been that youths' vocational orientation is grossly "unrealistic."

Two questions are raised by such an interpretation. In the first place, one is confronted with the value problem of the American credo of undifferentiated success goals. The belief is that all youths should strive to the limits of their abilities to achieve in the world of occupations. The available measure of consensus of achievement in this respect is found in the numerous studies of adult job ratings [*4, 11*]. In so far as youths' vocational orientations approximate the upper end of these rating scales, they reflect a "realistic" view of the achievement orientation of the society. Thus, to be "realistic" in the sense of conformity with the actual occupational structure is to be "unrealistic" in terms of the value system held out to American youth.

In the second place, there exist in the interpretation of youths' occupational orientation as "unrealistic" the assumption that their stated choices represent actual plans for adult roles, rather than the possibility that they are simply aspirations based upon a commonly held belief concerning desirability and prestige of occupation. The crux of the matter lies in determining precisely what is meant by an occupational choice. The question is whether the choice represents a plan based upon a relatively realistic perception of job opportunity or an aspiration determined by popular concensus of desirability.

This final point brings this discussion to a consideration of the method employed in determining youths' occupational choice and to an attempt to illustrate by example the nature of their occupational realism. Most studies of occupational choice fail to distinguish possible dimensions of occupational orientation. It is known that a youth will give a somewhat different answer to a question concerning occupation depending upon how the question is phrased [*3*]. This suggests the hypothesis that a student may raise or lower his occupational sights depending upon his interpretation of the question asked, particularly whether he perceives the question as one directed to a more or less definite plan or to a more generally held aspiration or wish.

Choice and Aspiration

In order to test this hypothesis, a questionnaire was devised which allowed the student to state both an occupational plan and an occupational aspiration. The student first was asked what he planned to be

[2] A number of occupational rating studies have been conducted and they tend to be relatively consistent from group to group and maintain a similar pattern over time. Martha E. Deeg and Donald G. Patterson, "Changes in social status of occupations." *Occupations*, 1947, *25*, 205–208, demonstrates a correlation of 0.97 between ratings of 25 occupations obtained by George Counts in 1925 and another sample in 1947.

after he completed his schooling. Then he was asked what he would like to be if he could do what he really wanted to do. The students were also asked to state their high school curriculum and their educational plans in order to indicate to what extent their occupational plans were supported in these respects. This allowed some indication of the validity of occupational plans and permitted a comparison of total planning with occupational aspirations. Additional information was obtained on the father's occupation and the student's sex.

This questionnaire was given anonymously to 1,000 ninth grade students in four medium sized, semi-industrial communities in New Jersey. The ninth grade was selected because at this age students begin to approach occupational choice with less fantasy, occupational interests begin to stabilize, the drop-out process has not yet started, and students must make a choice concerning high school curriculum. It is at this point that they must make a crucial decision concerning future plans. This decision is importantly based upon whether or not a student plans to go to college. If he does not plan for college, he must choose among the several non-college curricula offered. These choices in turn are instrumental in determining his future occupational possibilities.

The occupational information obtained from this questionnaire was grouped in accordance with the six principal categories of the Alba Edwards socio-economic grouping of the labor force [5]. This allowed comparison of student choices with the national distribution of the labor force and their fathers' occupations. In addition it gave a relatively adequate index of the socio-economic positon of the student for purposes of class analysis. The Edwards scale presents the following broad occupational groups: I Professionals and Semi-Professionals, II Owners, managers and officials, III Clerks and kindred workers, IV Skilled workers and foremen, V Semi-skilled workers, and VI Unskilled workers.

TABLE 1 presents a tabulation of the students' occupational choices, their fathers' occupations, and national and state occupational distributions in accordance with the Edwards scale.

TABLE 1

National Percentage Distribution of Employed Working Force by Edwards Occupational Groups Compared with Student Occupational Choices

	Occupational Group					
	I	*II*	*III*	*IV*	*V*	*VI*
National	7	20	18	12	21	24
Student Plans (N 833)	33	7	39	11	10	2
Student Aspirations (N 851)	64	9	14	8	5	0

These data clearly indicate that students distinguish aspirations from plans. They also show a marked difference between them. Although 73 per cent of the students aspire to business and professional roles, only 40 per cent plan for them. Similarly, only 12 per cent mention manual labor as an aspiration, while 23 per cent plan for such work. Thus, their plans more nearly reflect the occupational structure than their aspirations. This suggests the necessity of differentiating plans and aspirations in studies concerned with youths' vocational orientation and is particularly pertinent in assessing degree of realism of choice. Studies which fail to make this distinction may present a distorted conception of the nature of students' occupational orientation.

Where Shifts Take Place

TABLE 1 indicates that the principal shift from aspirations to plans takes place in occupational Groups I and II. In considering plans, the students tend to lower Group I aspirations in favor of Group III plans. The fact that Group III occupations (clerks and kindred workers) are dominantly female roles suggests that sex may further differentiate degree of occupational realism. Therefore, males and females are tabulated separately in TABLE 2. Here it can be seen that females concentrate their plans in Groups I and III. This concentration tends to decrease the approximation of student plans to national and state distributions when both sexes are combined.

TABLE 2

National and State Percentage Distribution of Employed Working Force by Edwards Occupational Groups Compared with Student Occupational Choices for Males and Females

	Occupational Group					
	I	II	III	IV	V	VI
Males						
National	5	25	14	15	18	23
New Jersey	7	14	19	20	24	17
Student's Father	4	18	8	32	22	12
Student Plans (N 362)	33	16	11	24	14	3
Student Aspirations (N 401)	57	17	5	15	6	1
Females						
National	13	5	29	1	28	25
New Jersey	11	3	32	1	37	16
Student Plans (N 471)	33	1	59	1	6	1
Student Aspirations (N 450)	70	2	22	2	5	0

The most notable concentration of male plans remains in Group I. However, Groups II, III, IV, and V bear a more reasonable relationship to state and national distributions and to the fathers' occupational Groups. Among males, 41 per cent plan for manual occupations as compared with 23 per cent among the total sample. Only the extremes of the scale (professional and unskilled laborer) can be said to have no reasonable relationship to the realities of the occupational structure.

Even in these extreme cases the distribution may not be as unrealistic as it seems. Although males over-select professions, they under-select owner-manager occupations in comparison with national figures. With present high geographic mobility, many students now professionally oriented may be able to secure such roles outside the state. Although this would mean a change in specific occupational plans, they could still maintain a relatively high prestige position. Since nearly all such students are presently planning for college and have selected college preparatory curriculum, this would not entail great change in their planning. As far as the under-representation in the unskilled group is concerned, it is unlikely that recruitment to this category will embrace a large number of these students. This is probable because 90 per cent of the students are white and only 4 per cent do not plan to complete high school. In addition, there is every indication that the national trend in the decrease in unskilled occupations will continue, so that the number of such jobs available to these students after they complete their education will be less than those presented in the Edwards data.

To what extent are occupational plans actually supported by other planning possible at this age level? An answer to this question would give further evidence as to the realism with which students approach occupational orientation. A comparison of curriculum choice and educational plans with occupational plans gives some indication of the total orientation. TABLE 3 presents the relationship between the occupational plans of male students and their curriculum choices. Since female choices conform to their pattern of occupational plans and because of the nature of their orientation discussed above, as well as to conserve space, they are not presented in this tabulation. TABLE 3 demonstrates that, in general, the male's occupational plans are supported by their curriculum choices. The highest percentage of choices at any Group level falls in a curriculum appropriate to that occupational level. Thus, 86 per cent of students planning for professional occupations choose college preparatory, 64 per cent planning for owner-manager roles choose either college preparatory or agriculture (Group II includes farm owners as well as business owners and managers), 49 per cent planning for clerk and kindred worker job choose commercial, 45 per cent indicating skilled labor choose industrial arts, and 63 and 60 per cent selecting semi and unskilled labor respectively indicate either industrial arts or general. As far as females are concerned, their occupational planning in Groups I and III are supported by the fact that the preponderance of selection of curricula falls in either college preparatory or commercial course.

Somewhat the same may be said of edu-

TABLE 3

Percentage Distribution of Male Students' Occupational Plans by Their Curriculum Choices

Occupational Plans		*Curriculum Choice*						
Number	*Group*	*Coll. Prep.*	*Comm.*	*Agri.*	*Ind. Arts*	*General*	*Don't know*	*No answer*
118	I	86	2	1	3	4	2	2
56	II	30	16	34	11	9	0	0
41	III	20	49	0	7	20	2	2
85	IV	14	15	6	45	11	5	5
52	V	17	19	4	27	25	2	6
10	VI	0	20	20	40	20	0	0
93	Don't know	18	9	2	23	12	5	9
22	No answer	39	14	5	27	18	5	14
477	TOTAL	40	14	7	20	12	3	

cational plans. Eighty-nine per cent of the boys and 95 per cent of the girls plan to complete high school; only 5 and 3 per cent respectively plan to drop out. The remainder are not certain of their educational plans. Among those planning to graduate from high school, 34 per cent of the boys and 27 per cent of the girls plan for college. Four and 13 per cent respectively plan for education other than college after high school. The male college planners exceed by 1 per cent those planning for professional careers.

A closer examination of the relationship of educational plans to occupational plans may be obtained by observing the specific occupational plans of male students. Ninety-eight males indicated plans for professional roles which ordinarily would necessitate college education. Of these, only eight did not plan for college. All students mentioning doctor or lawyer planned for college and only two who planned for engineering failed to plan for college training. These professions accounted for over half of the professions planned for. It might be added that college preparatory courses were selected by all but three of these 98 students. Two of these three did not plan for college.

The discussion thus far has pointed out that there is a significant difference between a student's occupational plan and aspiration. It is clear that a number of students lower their aspirations when considering plans, and that plans are more realistic in terms of the occupational structure. This raises the question as to who are the "realists"; that is, which students lower their aspirations when considering plans. The material already presented suggests that males approach planning more realistically than females. This seems understandable in light of the fact that although 90 per cent of the females state plans, little more than a third of them will probably actually work. Thus, in a sense, they can afford to plan high, and their plans very probably contain a strong element of aspiration since reality factors are not so vital in their considerations. But this does not hold true for males.

Another probable differentiating factor was available in the questionnaire. This was the fathers' occupations which gave some indication of the socio-economic position of the child. Previous studies have demonstrated a positive relationship between class position and prestige of occupation chosen by school children but have not indicated clearly whether the choice is a plan or an aspiration [*2, 7, 9, 10, 12*]. Table 4 shows the relationship between the occupational plans and aspirations of male students at each of their father's Group level. Again female data are not presented in order to conserve space. However, essentially the same relationships obtained, but in conformity with the general orientation of females already noted. TABLE 4 indicates that the lowering of aspirations is not

TABLE 4

Percentage Distribution of Male Students' Occupational Plans and Aspirations by Their Fathers' Occupational Groups

N	Father's Occupational Group	Occupational Plans I	II	III	IV	V	VI	Don't Know	No Answer	Occupational Aspirations I	II	III	IV	V	VI	Don't Know	No Answer
15	I	67	13	0	0	0	0	13	7	73	13	0	7	0	0	0	7
91	II	22	46	6	6	1	0	18	2	43	33	3	6	0	0	8	8
40	III	48	3	8	15	8	0	18	3	58	8	5	8	5	0	8	10
140	IV	24	5	6	29	11	1	21	2	48	7	5	21	4	0	6	9
124	V	16	2	16	15	17	3	21	9	48	10	6	11	10	2	7	7
49	VI	16	2	6	20	18	8	20	8	35	18	2	12	6	0	10	16
18	Father Dead	39	0	6	28	11	0	17	0	67	0	0	17	6	0	6	6
477	TOTAL	25	12	9	18	11	2	20	5	48	14	4	13	5	0	7	9

a random phenomenon but takes place primarily among students in the lower socio-economic levels. While it is true that both plans and aspirations tend to follow socio-economic position, the plans are considerably more class based than the aspirations. Thus, although aspirations to Group I and II occupations never fall below 53 per cent in any one Group, plans in these occupations fall as low as 18 per cent among students whose fathers are semiskilled or unskilled laborers. Some Group IV, V, and VI students plan for Group VI occupations, and in no case in these Groups were Group I or II plans higher than at least one of the other occupational Groups planned for. On the other hand, males in the upper three Groups plan more for business and the professions than all of the other occupational Groups combined.

Both the curriculum choices and the educational plans follow this pattern. Among males, all Group I students selected college preparatory curriculum and planned to go to college, while only 22 per cent of Group VI so planned. No Group I students planned to quit high school; 10 per cent of Group VI did. This pattern was followed throughout the six occupational Groups. The lower three Groups planned most for curricula other than college preparatory and least for college. Although females planned less for college than males, they followed the same class trend as the males.

These data suggest that students in the lower socio-economic groups are more "realistic" in their occupational orientations than those in the upper. However, this is true only if "realism" is defined in terms of the occupational structure. It is probable that the upper group students will more likely realize their high plans than the lowers, even though they plan considerably higher. This assumption is based upon the fact that recruitment to the upper occupations is itself class based.[3] This is paradoxical since those students whose choices are least "realistic" in terms of national occupational distributions are most "realistic" in terms of their position in the stratification system. This observation brings this discussion back to the consideration raised earlier as to what constitutes "realism." It raises the value problem as to who should be "realistic," that is, who should shoulder the burden of the lower occupations and what role the youth's class position plays in determining his occupational orientation.

Whatever may be the answer to these

[3] For an analysis of professions see: Stuart Adams, "Trends in occupational origin of physicians." *Amer. sociol. Rev.*, 1950, *15*, 228–235, and R. H. Knapp and H. B. Goodrich, *Origins of American scientists*, Chicago: Univ. of Chicago Press, 1952. A recent analysis of recruitment to high business positions may be found in W. Lloyd Warner and James C. Abegglen, *Occupational mobility in American business and industry*, Minneapolis: Univ. of Minnesota Press, 1955. Other studies too numerous to mention here further analyze class recruitment patterns.

considerations, it appears clear that these students as a group approach occupational planning with considerably more realism than is sometimes assumed. Furthermore, it suggests the necessity of distinguishing the dimensions of plan and aspiration in a discussion of youths' occupational choice, as well as taking into account sex differences. It further implies that a specific occupational choice is very probably an indication of a youth's general orientation to the occupational hierarchy when expressed as an aspiration, and a judgment of his general expectation and life chance when expressed as a plan. Although considerably more information on these students would be necessary in order to demonstrate these implications conclusively, the data presented does suggest that a second look at occupational "realism" and its implications merits the attention of those interested in and concerned with the occupational orientation of American youth.

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REGIONAL CONFERENCES ON EDUCATION BEYOND THE HIGH SCHOOL

The President's Committee on Education beyond the High School has announced the dates and sites of its five regional conferences. These conferences are to focus on the major problems of post-high school education relevant to each region, to stimulate planning and action on these problems, and to advise the President's Committee of their findings.

Far West: San Francisco, California, April 10–11; Harold L. Enarson, Director, Western Interstate Commission on Higher Education, chairman.

South: Louisville, Kentucky, April 23–25; John E. Ivey, Jr., Director, Southern Regional Education Board, chairman.

Mid-Atlantic: New York, N. Y., April 30–May 1; Carroll V. Newsom, President, New York University, chairman.

Midwest: St. Louis, Missouri, May 9–10; B. L. Dodds, Dean of College of Education, University of Illinois, chairman.

New England: Boston, Massachusetts, May 13–14; Mrs. Charles Kerby-Miller, Dean, Radcliffe College, chairman.

The Contribution of Guidance to the High School Educational Program

BENJAMIN C. WILLIS

The attitudes and values of top school administrators relative to guidance and counseling are of critical importance in our work. We are glad, therefore, to present in these pages a basic policy statement concerning guidance services by the General Superintendent of Schools, Chicago Board of Education. The address was delivered in May, 1956, on the occasion of the expansion of the school system's Bureau of Counseling Services.—Ed.

I AM TOLD this is the first meeting of its kind for Chicago. This is the first time when all of those with the most concentrated responsibilities for the high school guidance program have come together to exchange experiences and to think through mutual problems. We who preach "belonging" and warm personal relationships for our young people through guidance do need to feel the one and experience the other ourselves—as on this occasion.

But this day has another symbolism also, for in meeting thus together we exemplify the closer coordination we hope to have in our high school guidance services. I know as well as you do that within each school, adjustment teachers have used the services of the placement counselor, and the attendance counselor has drawn upon the resources of both. All three work closely together. I believe we must admit, however, that the entity of a guidance department has not been a universal concept as has the concept of an English department or a mathematics department. There may be historical or administrative reasons for this and I shall not go into those. There is one other reason perhaps. Guidance services are not the exclusive preserve of a group of counselors. Rather they are in one degree or another the responsibility of the whole faculty, including some other individuals with specific assignments such as year advisors and self-appraisal and careers teachers. However, the fact that all teachers have guidance responsibilities does not prevent our having a guidance department any more than the fact that all teachers help teach English prevents our having an English department. Thus you are here today in the name of those back home as well as in your own right.

There is a difference between guidance and a guidance program. Schools have always offered guidance, just as parents have, one's friends and even one's enemies. Guidance *programs* are relatively new in school organizations. Without an organized program, effective guidance depends upon chance—the chance that the youngster meets the suitable, interested adult at just the proper moment. I am sure that everyone of us here can remember just that adult and just the crucial, needful moment. We remember him with gratitude and affection, but we realize as we remember him, that this effective personal relationship had a large element of luck in it.

A guidance program goes beyond incidental guidance; it presupposes a plan. It acknowledges a particular responsibility on the part of the school; and it implies certain attributes, understandings, and roles on the part of the faculty. I shall use the terms guidance and guidance program interchangeably for the most part, but it is of a planned program and of conscious attitudes that I speak.

BENJAMIN C. WILLIS is General Superintendent of Schools, Chicago Board of Education, Chicago, Illinois.

Role of Guidance

Now to define guidance. Guidance is organized help to young people in the selection and interpretation of their experience; in the formulation of attitudes; in the solving of their problems; in the making of their choices; in their growth toward competent, serene maturity; and in their right and necessity to be themselves at their best. Self-guidance is the goal of guidance. Citizenship, useful service, and rich satisfaction are its reward. If instruction is the mind in education; guidance is its heart. If knowledge is the aim of instruction, wisdom is the goal of guidance, for "wisdom is the way in which knowledge is held." Guidance endeavors to help the young person tie all his varied experiences together—in school, at home, in the community—and to give them personal meaning for use in what Whitehead calls "the insistent present."

Preparation for the insistent present has always been the concern of education, but the present changes. Once only a handful of people needed formal school experience to discharge the demands of their insistent present. Today the need for a relatively high level of skill is universal.

The school program of our fathers would be as inadequate for the insistent present as their roads would be for our V8's, 98's and other cars. Times have changed; the adult way of life has changed. The adolescent today is different from us as adolescents, because the society in which he lives is different. It is well for us to remember that we, not the young people, have created the present way of life in which they must find their paths to the future.

It is this ever-changing but insistent present—the tomorrow we sought yesterday—that our educational process must keep pace with and that our young people must be prepared for. We all agree they will need a high order and a dismaying range of skills. But how broadly do we conceive the word, "skill"?

Granted we think, and rightly so, of the skills of communication—listening as well as reading; speaking as well as writing; skill in cooking, carpentry, homemaking and husbandry. But there are other skills also—critical thinking, discernment of meanings below the surface, judgment and human relations. And above all, there are the skills of self-discipline, and self-guidance; skill in making the unending choices life presents and in evaluating our experiences. Without these final skills, education is mere training; citizenship is blind, and life is lacking in spiritual meaning.

Education employs two basic tools in conferring these skills upon young people—instruction and guidance. At times in the educative process, the two are so closely intertwined as to be indistinguishable. Some phases of guidance are an integral part of instruction. When we teach mathematics we teach attitudes toward the subject as well as mastery of it. This is guidance. When we drill in foreign languages we inculcate habits as well as syntax; and when we discuss the meaning of a poem or play we are encouraging discernment beyond the pages of a book. These, too, are guidance.

Instruction and guidance are intertwined in other ways also. Despite the extraordinary changes in our way of life, our innermost needs remain constant—our needs for success, for affection, security and status. These, which are the concern of guidance, can be given or withheld in the instructional process. Multiple track programs, individualized instruction, special classes, and other methods of suiting the curriculum to the student are efforts along these lines. These are instructional adaptations for guidance purposes.

The insights basic in guidance come from many fields of study, from psychology, sociology, cultural anthropology and medicine, as well as from educational research. They have implications for the teaching-learning process, and must be brought to bear upon it, not just in this or that classroom, but in all classrooms and all school activities, steadily, consistently and quietly. This is the mission of the guidance program.

Guidance then, is a process fulfilling certain purposes. It is based on certain concepts. A guidance program is also organized in keeping with certain principles; it

performs functions recognizable regardless of unique local patterns and it offers separate roles to those who participate in it.

Principles of Guidance

1. Effective guidance is total guidance with continuity. This is to say that problems do not start at the age of 12 or 13 or even at seven or eight. Problems are universal and know no age limits, although the kind of problem varies from age to age and from person to person. In the same way, experience is continuous and choices never go away. Thus, a school guidance program must offer services for all ages and stages of growth and must be conceived as a span on a continuum which begins in the home at birth, encompasses the impact of the community, and continues into adult life. The services we offer will differ in accordance with time and circumstances; roles will change, but provision for organized help must be constant.

2. The teacher is the key guidance person in the school.

3. Professional leadership through the work of counselors is necessary in an effective guidance program.

I prefer to discuss these two principles together, because neither is sufficient by itself. Teachers and counselors are members of an indissoluble partnership. Each needs the other to carry out his functions. The climate of the classroom and the personal meaning to the young person of the classroom activities prevail in school over the climate of the counseling office and the insight it provokes. On the other hand, the teacher needs the specialized help the counselor can offer and the resources the counselor has at his command. We can never say we are too busy or too crowded for guidance or for mental health. Children and teachers alike are individuals, not statistics. The human element is the deciding element, and guidance attitudes and guidance functions permit it to come to fulfillment.

4. Guidance is democratic. By this I mean that guidance services are intended for everyone, not just for the so-called problem children. More than that—the services are not simply "offered" and the initiative to partake left to the student or his parents. A good guidance program should be inescapable. A carefully worked out program, and guidance attitudes which are ingrained in the faculty, will often be unobstrusive. Frequently the youngster will not recognize activities as guidance if the program is operating both subtly and completely.

Functions of Guidance

First, through the techniques and practices of a guidance program, the individual student's abilities, achievements, shortcomings, interests and goals are identified—for his guidance as well as for his teacher's. Identification of individual differences—of all kinds, not just intellectual difference—is one of the major aims of a guidance program. Once identified, of course, the findings need to be used so that each individual may experience his fullest development.

Second, a guidance program helps young people to interpret their experience and to see the meaning of an isolated experience in a larger context. As one phase of such an aim, we explain their own test scores to young people and encourage them to see the relationship between their abilities and their achievement. As another phase, we encourage them to relate their likes and dislikes and their talents and skills to the world of work. As still another phase we try to help them derive constructive attitudes and conclusions from what happens to them. This is perhaps the gravest responsibility of guidance. It is a corollary of the first aim and a foundation for the third. Take as an example, the youth who has failed in, let us say, English 1. This failure is an experience. Now—what meaning will this experience have for him? He may be bewildered, resentful, ashamed, angry, or defeated. By themselves, no one of these is a constructive emotion, not even shame. From his experience with failure, the youth will, however, extract attitudes and emotions whether we raise a hand to help him or not. Some one in a guidance role—teacher or counselor—needs to help the youth assimilate this experience and learn from it. Scolding him would be one kind of "guidance," of course; but there are other better means.

Through various aspects of a guidance program and the guidance functions of the total faculty, the separate experiences of youth in school, at home, and in the community converge into a total picture that a young person has of himself. One thing we can be sure—whether we offer this help or not—each youth does evolve a self-image. He "sees" himself in one role or another. He feels competent or incompetent; popular or unpopular. With guidance this image can resemble the real person better than without guidance.

Third, a guidance program aims to help a young person solve his problem or to make the choice before him. This aim of a guidance program is, it seems to me, the most exciting and rewarding of all aims. It is also the most elusive, for here we are faced with the necessity of presenting help when the need arises, frequently before it is openly expressed or even felt inwardly. Often we must anticipate; always we must be alert to nuances, to subtle shadings and changes. To carry out this aim we need a strong steady program of help. It is not enough to offer to give help. It must be extended constantly. In this particular I believe programs of group guidance are of inestimable value. Young people do have problems, whether they come to us with them or not. By providing them with a friendly forum where problems are discussed impersonally, even casually, we will forestall many serious doubts and present an attitude toward problems that will place these problems in proper perspective.

After all, any problem consists of a set of choices. Choices and problems follow us all the days of our lives. We will not eradicate problems by helping young people solve theirs as they come. We will not obviate choices by helping youth make wise selections. With each effort on our part our young people should gain in judgment and experience and acquire increasing self-guidance for the choices and problems that lie ahead of them.

Guidance has been associated in people's minds with one kind of choice more than any other—the choice of a vocation. There are historical reasons for this since the guidance movement began as vocational guidance; but fortunately newer, broader concepts of guidance now prevail. Whereas once we spoke of educational guidance, vocational guidance or personal guidance as if they were separate operations, we now speak of guidance. After all, it is impossible to disassociate educational choices or experiences from vocational or personal ones. Certainly an individual's feeling about himself as much as his educational experiences dictates his vocational choices.

A vocational choice is a process, not a single act of choice. This process begins with the small child's first awareness of the work world and his early delight or frustration in learning. As he grows, his experiences, his enthusiasms and the opportunities which he has to develop interests, help bend or direct the total process of his vocational choice. It is well to remember also that except for such professions as the ministry, teaching and medicine, few successful adults went in a straight line from original job choice to their ultimate career. For that matter, some ministers become social workers, physicians become editors, and teachers go into industry! The general direction of vocational interest and level of preparation rather than a specific job choice are probably the realistic choices for youth.

However, all of us go to work ultimately, and a vocational choice is a symbolic choice. It hinges upon the experiences we have had, the interests we have developed, the imaginative visions we have caught, and above all upon the picture we have of ourselves. For these reasons a strong, continuing program of occupational and educational information is as essential as a strong program for the identification of individual differences and help in solving problems before they have become traumatic.

Because we can learn so much about a youth from the occupations he prefers we need to explore this area of interest with young people constantly. This does not mean that we will expect 14 year olds to make a vocational choice and stick to it. It does mean that delicate responsiveness on our part and a constant program of

information are the responsibility we have.

Such a program of guidance, you will agree, is not an emergency service. It is for every pupil. This, I believe, is the essence of a guidance program—that it offers to *every* child help in attaining fulfillment, aid in solving problems, assistance in knowing himself, and the right to be himself at his best.

Roles in Guidance

And now for the roles in guidance. I touched upon this when I cited the importance of both the teacher and the counselor. I want now to elaborate on this point. There are really seven roles in our total guidance service as it functions in the high school.

First in importance is the role of the student himself. In his younger years, the youth's role is comparatively passive, for in school as at home, some choices are made for him. However, as he gets older his role becomes increasingly important. Increasingly he is a part of his own guidance team, until as a young adult he assumes a dominant role. I believe it is right always for the person who has to live the life to help determine what that life shall be. Each of us will make some mistakes in judgment, but better that we live with our own mistakes rather than with someone else's.

Second is the role of the parent. The parent is the child's first and most devoted counselor. Perhaps at times we may feel that our disinterest is more reliable than his bias, but his bias—if such it is—has precedence over our disinterest.

Third is the role of the community. Let us remember always that while any environment influences the growth of a child it also offers untapped opportunities. School experience is, as I said earlier, part of a larger experience. It is the school's obligation to make the best use of the larger potential.

Fourth is the role of the teacher. If we agree—and it seems to me we must—that young people need continuing, close relationships in school of an every-day character, we must look to the teachers to supply them. And they do. There is no equal in school to the support a teacher can—and does—offer.

But teachers need help in this—help in understanding their guidance roles and help in carrying them out. Else they will think we mean for them to do something more than they are doing already and they will feel, unless we give them help, that they are being asked to work up a new specialty.

This becomes part of the counselor's role—to aid teachers in a variety of ways—with information not only about individual pupils' abilities, but about resources. Counselors are the teachers' first line of resource. Counselors will always work directly with some young people, but by working for all youth by assisting teachers, their influence will be extended.

Last there is the administrators' role. Support, supplies, staff (in part our supervisory staff), and time for guidance are essential if guidance itself is essential.

I believe it is. We can take one of two views of the educative process—the broad view that sweeps the horizon or the periscope view that sees only a small round area. These two views are in combat today in education and in the public's appraisal of education. The issue is quite simple and clear: shall our schools belong to all youth or to the academically elite? The job in one instance is more difficult but it is also more challenging. By restricting our program to the intellectually proficient we can make more mileage per hour, but will we in the end have traveled as far? For schools exist not for our ease but for the advancement of youth and the future of America. Times have changed; schools have changed. Guidance programs are, comparatively speaking, a part of the new answer to the needs of youth for the insistent present.

Conclusion

Perhaps this is enough in the way of general comment as to the place of guidance in our educational program today. I would like to conclude with three specific comments in connection with our situation here in Chicago.

To me this is a memorable day and symbolizes the reorganization of our secondary

school guidance programs into a unified team approach. In our concern for efficiency, in the past we have too often partitioned the youngster and sent him one place for placement help, another place in relation to adjustment problems, and considered his deficiencies in attendance in a third office. I am sure all of you agree that these are interrelated problems existing within the total adjustment of the student. It is important that whoever gives service to this student should have a thorough understanding of all aspects of his adjustment. This includes his family relationships, his ability and interest level, his life plans, and his special needs. This implies a high level of professional ability on the part of each member of the guidance team. This implies additional study and extensive in-service work within the faculties of schools and districts. All of these are worth while goals.

Secondly, it implies a close integration with the elementary school and the development of a sequential program of guidance where every pupil receives the assistance he needs. We know now that he is an adolescent by the time he moves into the seventh grade age level and that increasingly we should involve him in planning and achieving his own total adjustment. Working in cooperation with the elmentary school, it is important that the high school guidance worker avoids duplication of effort and utilizes to the utmost the insights and information coming from the elementary school. Our present organization makes this procedure possible.

Thirdly, the entire focus of the guidance program operating within a school setting should be toward improving the instructional program for each student. Through the information and understanding of the guidance worker, the principal organizes the school in a manner consistent with the talents of the staff and the needs of the children. The guidance worker translates this educational experience for children into optimum growth, utilizing the resources of the classroom teacher, community informational sources and cooperating with homes for securing optimum motivation.

All of this says that the guidance worker contributes the needed information to help the administrative and teaching staffs plan an effective program of education for all of the children. This is truly a significant responsibility. I extend to you my wishes for success in meeting this challenge.

SURVEY SHOWS ONLY 17 PER CENT OF U. S. SCHOOLS HAVE COUNSELORS

Only 17 per cent of American schools surveyed by the U. S. Office of Education had someone in the staff who devoted half or more time to guidance activities. Schools in this 17 per cent (about 4,000 of the 24,000 schools reported) had 19,000 counselors to serve about 3.5 million students, a ratio of one counselor to every 524 students in these schools where counselors are available.

The Flanagan Aptitude Classification Tests

JOHN C. FLANAGAN

THE FIRST published edition of the Flanagan Aptitude Classification Tests [3], generally referred to as the FACT Battery, was issued in 1953. The development of this battery was based on the procedures and techniques originally developed in the program of aircrew aptitude classification testing carried out in the United States Army Air Force during World War II [1]. The experience gained in giving a battery of approximately 20 tests to more than a half million persons and comparing their scores on these tests with performance in jobs having rather different requirements such as pilot, bombardier, and navigator, provided new insights into predicting success from aptitude test scores. The success of this program and the new types of test items developed and evaluated during this five year period suggested that a battery of aptitude classification tests more extensive than those available at that time would provide a valuable tool for counselors.

Accordingly in the fall and winter of 1946–1947 a battery of 27 tests was developed. This battery was administered to 1600 graduating seniors in ten Pittsburgh Public High Schools in the spring of 1947. In addition to studies of the intercorrelations of the various tests, two follow-up studies [10, 11] were conducted to determine the occupations entered by members of this group and their progress in these occupations. These results suggested a number of desirable modifications in the original test battery. In the meantime, a number of fairly typical occupations were studied by means of the critical incident technique and other systematic procedures for analyzing the job elements essential for success in an occupation. On the basis of these studies a new list of 21 job elements was defined. It is believed that this set of job elements provides at least a first approximation to comprehensive and systematic coverage of the tasks which are important determiners of success and failure in the occupations most frequently entered by present day high school graduates. Each job element has been defined so as to be general in the sense that it is included in a number of occupations, but specific or relatively unique in the sense that it measures something different than the other job elements included in the list.

These definitions of job elements formed the basis for the test rationales from which the aptitude classification tests were developed [2]. It is believed that this explicit derivation of test content from job elements tends to permit a personnel officer in charge of selection to identify those aptitude tests essential for a task which he has analyzed in terms of its important components. These tentative identifications on his part are regarded as his initial hypotheses as to the essential job requirements. Such hypotheses need to be empirically verified. However, it is only by formulating such hypotheses and testing them that the test user can improve the accuracy of his judgments regarding the relevance of tests for making predictions of performance.

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Eighth of a series of articles on Multi-Factor Tests

By defining the job elements in such a manner that they will be relatively unique and by retaining in these job elements many of the specifics of the occupational tasks in which these job elements are most critical, the advantages of both factorial purity and the miniature job sample are at least partially realized. That is, by developing a job element test which is custom built with special reference to the work situations in which this job element most frequently occurs, it is possible to tap many of the specific factors associated with this job element in these specific work situations as well as the pure mental factor which represents the common factor being measured by the test. It appears that this advantage can be gained with respect to most of the job elements with little decrease in what Super has called their multipotentiality. This procedure may have some limitations in respect to the timelessness of the tests and the generality of the job elements with respect to other cultures. However, the obvious advantages in the present situation appear to outweigh these disadvantages.

By the fall of 1952 it had been possible to develop satisfactory tests based on 14 of the 21 job elements. Accordingly these were given to a sample representative of all Pittsburgh Public High School seniors in December 1952. Using these results for preliminary standardization purposes, the 14 tests were published to make them available for general use by counselors and other aptitude test users in November of 1953. During the following three years after a number of experimental studies, satisfactory measures were developed for the remaining seven job elements. It is planned that the complete battery of 21 tests be given to many thousands of high school students in grades 9, 10, 11, and 12, for standardization purposes and as a basis for future follow-ups to determine the predictive values of the various tests. This testing will be carried out in the spring of 1957.

It is not assumed that the 21 job elements which have been identified and measured to date for this battery will provide complete coverage for use in appraising aptitudes in order to assist in choosing an occupation. There appear to be factors, for example, in music, dramatics, painting, and the graphic arts, which are not adequately covered by the present group of tests. It is also anticipated that the present 21 job elements may be refined and revised on the basis of future experience. The present FACT Battery does include, however, all of the intellectual factors which the authors have been able to identify and define, on the basis of the study of a wide variety of occupations.

Contents

Below are given brief descriptions of each of the 21 job element aptitude tests comprising the FACT Battery. Sixteen of the tests are in paper and pencil multiple-choice form. The other five are performance tests. Four of the performance tests involve only the making of marks on test booklets. The fifth requires carving patterns in pieces of chalk. In general, the tests are based on the finding that better predictions can be obtained from several short tests each including certain unique factors rather than a few longer tests.

FACT 1. *Inspection*—This test measures ability to spot flaws or imperfections in a series of articles quickly and accurately. The test was designed to measure the type of ability required in inspecting finished or semi-finished manufactured items. The items consist of a series of small parts, identical except that some are perfect; *i.e.*, exactly like the correct sample as given, and some are imperfect or different in some respect from the sample. The small parts to be identified are a series of articles which might be produced and need to be inspected in a factory.

FACT 2. *Coding*—This test measures speed and accuracy of coding typical office information. A high score can be obtained either by learning the codes quickly or by speed in performing a simple clerical task. The items include sets of names and code numbers used to identify them. The task consists of quickly committing these codes to memory and identifying them in mixed order and in combination with other codes used throughout the test. The test is pri-

marily a measure of speed and accuracy in learning and recording the type of codes used in the performance of simple clerical operations.

FACT 3. *Memory*—This test measures ability to remember the codes learned in test 2 (Coding). The test consists of a list of the words for which code numbers were provided in the Coding Test, and the task is to remember and designate the correct code for each word. This is a measure of ability to remember information of the type required for various kinds of work involving forming new associations between ideas represented by words or symbols.

FACT 4. *Precision*—This test measures speed and accuracy in making very small circular finger movements with one hand and with both hands working together. The test samples ability to do precision work with small objects. This is a measure of finger dexterity and the ability to accomplish tasks in the manipulation of very small objects such as is required in the manufacture of intricate pieces of equipment consisting of many tiny parts.

FACT 5. *Assembly*—This test measures ability to "see" how an object would look when put together according to instructions, without having an actual model to work with. The test samples ability to visualize the appearance of an object from a number of separate parts. The items consist of a picture of a number of disassembled parts required for a small piece of equipment. This picture is followed by a series of pictures of completed objects. The task is to identify the object which is assembled in accordance with the directions from the separate pieces given in the first picture. All of the assemblies use the pieces shown, but there is just one object in the series which assembles them in the correct way. This is a measure of the type of spatial visualization required for certain types of engineering and mechanical operations.

FACT 6. *Scales*—This test measures speed and accuracy in reading scales, graphs, and charts. The test samples scale-reading of the type required in engineering and similar occupations. The test is divided into three parts. The first is a graph showing a number of curves expressed in terms of temperature and minutes. The items consist of reading the chart correctly in both dimensions. The second and third parts show a chart having both rectangular and polar coordinates. The items require that the examinee locate a point on the basis of information regarding circular or angular position in terms of degrees and also distance from the center of the circle in terms of a scale shown on a radius and representing concentric circles. He then determines the position of this point in terms of the horizontal and vertical scales and reports it by selecting the correct coordinates for the point from several that are given as choices. This measures the ability to perform work involving the reading of graphs and coordinate scales.

FACT 7. *Coordination*—This performance test consists of a series of circular paths. The task is to trace the paths with a pencil starting at a given point in the center and working toward the outside of the circle being careful to keep the pencil mark within the white paths and not to touch the sides of the paths at any time. The test measures ability to coordinate hand and arm movements. It involves the ability to control movements in a smooth and accurate manner when these movements must be continually guided and readjusted in accordance with observations of their results. This is a measure of ability to make rotary arm movements with precision and the ability to make corrections and adjustments required to keep the movements accurate.

FACT 8. *Judgment and Comprehension*—This test measures ability to read with understanding, and to use good judgment in practical situations. The items consist of a series of paragraphs each of which is followed by a number of questions regarding information conveyed in the paragraphs. The task is to select from multiple-choice items the statements which best answer questions based on the facts given in the paragraph. The statements are not worded as in the paragraphs, but restate the information in another form, or require inferences or interpretations.

FACT 9. *Arithmetic*—This test measures

skill in working with numbers. The items include only counting and the four fundamental operations of addition, subtraction, multiplication, and division. The job element measured is merely speed and accuracy of performing simple numerical operations rather than arithmetic reasoning or the understanding of mathematical concepts or terms. These latter factors are measured by the Reasoning Test.

FACT 10. *Patterns*—This test measures ability to reproduce simple pattern outlines in a precise and accurate way. Part of the test requires the ability to sketch a pattern as it would look if it were turned over. The items consist of a series of patterns drawn on sections of graph paper. The task consists of starting at a given point and reproducing this pattern assuming it were turned upside down. This performance test is more complex factorially than most of the tests in the battery but its practical and simple nature suggested that it be retained as a measure of spatial ability.

FACT 11. *Components*—This test measures ability to identify important component parts. The samples used are line drawings and blueprint sketches. It is believed this performance should be representative of ability to identify components in other types of complex situations. The items include a series of simple geometric shapes which are presented in various complex geometric patterns which include a variety of other geometric shapes. The task is to identify the one of the five simple geometric shapes used in each of the drawings. This is a measure of ability to identify and recognize a component part in a complex setting. It emphasizes the ability to break through a specific set or approach and see a problem in a new light.

FACT 12. *Tables*—This test measures performance in reading two types of tables. The first consists entirely of numbers; the second contains only words and letters of the alphabet. The test is divided into two parts. In each part there is a two-way table. The examinee is given one of the listings in the column at the left and one for the top row and reads off the corresponding listing from the body of the table. He completes the task by noting to which of the five choices this answer corresponds. In Part I all of the listings are in numerical form and the table entries are listed in order of magnitude. In Part II the listings are words or letters and the entries are arranged alphabetically.

FACT 13. *Mechanics*—This test measures understanding of mechanical principles and ability to analyze mechanical movements. The items include detailed diagrams of gears, springs, and other mechanical devices showing how one part relates to another in order to operate the device. The task is to choose the correct answer from five choices given in answer to the questions regarding the operation of the device. This is a measure of the examinee's ability to understand how mechanical devices function from a study of the diagram without explanation.

FACT 14. *Expression*—This test measures feeling for and knowledge of correct English. The test samples certain communication tasks involved in getting ideas across in writing and talking. The test consists of two parts. Part I, Grammatical Usage, presents a list of short sentences involving various principles of grammar. The task is to indicate whether the sentence is grammatically correct or incorrect. Part II, Sentence Structure, consists of sets of items each containing three different ways of expressing the same sentence. The task is to select the sentence which is best and the one which is worst from the standpoint of clarity and smoothness of expression.

FACT 15. *Vocabulary*—This test measures knowledge of the meaning of words selected with emphasis on such fields as literature, fine arts, and music. Each test words of these types tends to emphasize the is a synonym of the test word. The use of words of these types tends to emphasize the unique factor being measured by the Vocabulary Test, namely, word knowledge acquired from reading and other cultural influences, and to reduce the amount of overlap with such tests as Reasoning and Judgment and Comprehension. A high score tends to indicate ability to select the right word to convey an idea.

FACT 16. *Reasoning*—This test measures

the types of ability to translate ideas and operations presented in sentence form into brief symbolic notation of the type used in high school and college mathematics. It also includes the understanding of certain basic mathematical concepts. In order to confine the test as much as possible to the unique factor being measured, the items are written to exclude almost completely both skill in performing advanced mathematical manipulative operations and the type of simple numerical operations included in FACT 9, Arithmetic.

FACT 17. *Planning*—This test measures the ability to plan, organize, and schedule. The items consist of preparing plans in outline form using steps presented in scrambled order. It is necessary to foresee the problems which may arise and to anticipate the best order for carrying out the various steps. The items are in two stage form. First the examinee places the steps in the order he thinks is best. He then answers multiple-choice questions which make it possible to determine whether the order he selects agrees with the keyed answers.

FACT 18. *Ingenuity*—This test measures creativity or inventiveness in devising ingenious procedures, equipment, or presentations. Each test item contains a description of a problem situation calling for an ingenious solution. Some aspects of the solution are given in the item but in each case the key word or words which include the crucial idea are left blank. Five choices for filling in this word or words are shown in skeleton form. Each choice has a space for each letter in the word and also includes the first and last letter of a series of words, one of which is the key word. Thus the individual is required to think of the solution rather than recognize it but is usually able to get immediate confirmation or correction by noting whether it fits in with the letters and spaces given in one of the choices.

FACT 19. *Alertness*—This test measures the ability to size up a situation and notice that a dangerous situation exists or that some specific action is needed. The test consists of a number of pictures in each of which five objects or locations have been designated with a letter. The task is to see what needs to be done first to remedy the situation and mark the corresponding letter. The test is speeded so as to obtain a measure of alertness in hazardous or emergency situations.

FACT 20. *Tapping*—This test measures the ability to tap out patterns using the eight fingers on the individual's two hands. This is a performance test using a printed test booklet. There are several separately timed sections arranged in order of increasing difficulty. Each section is scored in terms of speed and accuracy. The test is designed to include the aptitudes required in learning to type or to use an adding machine.

FACT 21. *Carving*—This is a performance test which measures the ability to carve specified patterns in rectangular pieces of a special type of chalk with a small knife. The score is based on the accuracy with which the patterns are followed and the number of sections of the pattern completed within the time allowed. Carving tests have been found by other investigators to make an important contribution to predictions of success in dental school training. It is expected that this test would also have predictive value for performance in surgical and artistic activities.

Administration and Scoring

The 21 tests of the FACT Battery require 7 hours and 15 minutes of working time or an average of about 20 minutes each. At the present time 14 of the tests are available in individual test booklets. As noted earlier, the remaining 7 tests are now ready for production as individual test booklets.

In addition, the 21 tests are currently being divided into two single-booklet batteries of 14 tests each. One battery will include the tests intended as predictors for occupations requiring or ordinarily employing persons with college training. The other battery will include the tests intended as predictors for occupations usually entered directly after completing high school.

Each of these latter two batteries is designed to be administered in a single school day. Special answer sheets for each battery are being designed for use with the Iowa

Electronic Scoring Machine so that the responses for either of the 14 test batteries may be entered on the front and back of a single answer sheet.

Thus, the ultimate plan is to provide all tests in the convenient self-scoring forms and, alternately, in an economical reusable booklet for use in school-wide central-scoring programs.

In designing each test, consideration was given to insuring that the administrative directions, practice exercises, and time limits used were best adapted to obtain valid measures of the specific job element involved. A few of the tests are definitely speeded and require precise timing for best results. Most of them are power tests which allow sufficient time so that more than 90 per cent complete all the items. Two of the tests have no time limits. On these tests, Judgment and Comprehension and Expression, the examinee is given as much time as he needs to finish.

The raw scores on all tests are converted directly to stanine scores. These simple, single-digit scores incorporate within the standard scores used for all of the tests the basic norms which provide direct comparability for the results from the various tests. The lowest 4 per cent of Pittsburgh High School seniors receive stanine scores of 1, the middle 20 per cent scores of 5, and the highest 4 per cent, scores of 9. The combined scores for predicting occupational success are also reported on the same stanine scale. In combining scores from various combinations of the tests for predicting success in a specific occupation, the several tests for a particular occupation are all weighted equally. Experience in making predictions with large groups such as were used in the aircrew classification testing program suggest that in the absence of follow-up data on very large samples the assigning of equal weights to the tests used for prediction is likely to give the most stable results.

The basic standardization group included more than 1,600 high school seniors representative of all of the graduating seniors of the class of 1953 in the Pittsburgh Public High Schools. The Director of Research of the Pittsburgh Public Schools, Charles E. Manwiller, reports that the Pittsburgh school population tends to be about average in terms of national norms. Although the basic stanines are presented as referring to a typical American city, Pittsburgh, rather than as truly representative of the nation as a whole, it is believed that the stanine scores will represent a meaningful standard for comparison for persons tested in all sections of the country. Separate percentile scores for males and females in this standardization group are provided for the more precise interpretation of an individual's scores.

Reliability

Although the reliability coefficient for a specific test in a multifactor test battery in which the scores are combined to make predictions is not crucial, it is desirable that all of the tests have at least a moderate degree of reliability. The reliability coefficients for the tests of the FACT Battery were obtained either from separately timed halves or from equivalent forms except for the two tests in which all examinees were allowed to complete all of the items on the tests. The reliability coefficients obtained in this way contain no spurious increment of the type which results from comparing scores on odd and even items. Inflated coefficients are obtained from the use of the Spearman-Brown method whenever some persons do not complete all the items they could answer correctly on a test even though the time limit is fairly adequate for most people and the test is primarily a power test. The median reliability coefficient for the first 14 tests is 0.76. On the basis of results from experimental forms for the seven new tests it is estimated that for all 21 tests the median reliability coefficient will be between 0.80 and 0.85. Reliability coefficients have also been computed for a number of the combined occupational stanine scores. The reliability coefficients for nine fairly representative combined scores ranged from 0.83 to 0.93 with a median of 0.87 for the initial 14 test battery. The median reliability coefficients should be higher for the 21 test battery.

It is not recommended that these short tests be used as a basis for guidance or selec-

tion procedures involving multiple cut-off methods. Since the individual is accepted or rejected on each test in turn, sampling errors on one test cannot be compensated by others, and a substantial degree of reliability is needed at all cut-off points used at any time on each test. In such cases where more reliable measures are needed, it is recommended that two forms of the particular test be used. In most cases, as noted above, this will require only about forty minutes of testing time. Combined scores of satisfactory reliability for guidance purposes can be obtained for most occupations by using only a single form of each of the appropriate tests.

Validity

The aim of the FACT Battery is to provide accurate predictions of success in educational courses and occupations. Only a limited amount of data are currently available involving direct follow-up validation of the tests in this battery. Because of the difficulties of comparing the scores made by heterogenous groups of job incumbents with those made by high school students or job applicants, the basic approach to obtaining validation data for the FACT Battery has been in terms of the follow-up on to the job and into advanced schools of persons tested in the guidance situation in high school.

As a preliminary study of this type a follow-up was made on the group of 1,650 high school seniors included in the standardization group in Pittsburgh. Responses were obtained from 1,427 members of this group. These 1,427 persons were found to have entered 87 occupations or training courses. In a booklet on *Interpreting Test Scores* published in 1956, [7], the mean stanines on the 14 aptitude classification tests were reported for high school graduates who had entered each of 23 occupations approximately one year earlier, and indicated that they were currently satisfied and successful in this occupation. These groups contained between five and sixty persons. In a similar table mean stanines on the tests were reported for members of this group who were in nineteen specific training courses and reported after approximately one year that they were satisfied and successful. The numbers in these groups ranged from five to forty-three. In TABLE 1 these mean scores are reported for a few of the larger occupational and training course groups. The mean scores of the engineering students are of interest in that their six highest scores are on the six tests included in the composite for the engineer stanine. These means range from 6.8 to 7.2. The rows of data for secretary and stenographer indicate that their patterns of scores are

TABLE 1

Mean Stanines on the 14 Aptitude Classification Tests for High School Graduates Who Indicate That They Are Satisfied and Successful in Various Specified Training Courses and Occupational Groups

	N	*Inspection*	*Coding*	*Memory*	*Precision*	*Assembly*	*Scales*	*Coordination*	*Judgment and Comprehension*	*Arithmetic*	*Patterns*	*Components*	*Tables*	*Mechanics*	*Expression*
Engineer	39	6.1	5.2	5.5	5.8	7.1	7.1	5.8	7.1	6.5	7.2	6.8	5.8	7.2	5.9
Nurse	29	5.4	5.4	5.6	4.9	5.0	5.1	4.6	5.2	4.6	4.7	4.7	5.6	4.5	6.1
Teacher (Elementary)	43	5.2	5.2	5.1	6.0	4.4	5.4	5.1	5.7	5.6	5.1	5.3	6.1	4.8	7.2
Secretary	48	5.6	5.9	5.6	5.6	4.7	5.2	5.7	5.1	5.5	5.4	5.5	6.0	4.6	6.0
Stenographer	54	5.6	5.6	5.6	5.3	4.9	5.3	5.7	5.4	5.5	5.4	4.8	6.2	4.6	6.5
Typist	39	4.8	4.6	4.4	4.8	4.0	4.1	4.7	4.3	4.7	4.5	4.4	5.0	4.5	4.9
Office Clerk	60	4.9	6.0	5.7	4.8	4.6	5.0	5.0	4.6	5.7	4.5	4.9	5.6	4.7	5.2
Sales Clerk	33	4.3	4.7	4.2	4.2	4.5	5.2	4.9	4.8	5.0	4.6	4.4	4.6	4.8	4.3

quite similar. It is known that the titles of stenographer and secretary are used interchangeably in various types of organizations. There appears to be a clear-cut differentiation between the secretary-stenographer group and the typist group, the latter being approximately one stanine lower on the relevant tests for secretary.

These results have set the pattern for a series of one, five, ten and twenty-year follow-ups planned for the very much larger autumn 1957 National Standardization Group. The study now being conducted by Robert L. Thorndike and Elizabeth P. Hagen involving a follow-up of men tested with the 20 tests of the aircrew classification battery 12 years earlier should be very helpful in establishing procedures and selecting criteria.

A secondary aim of the FACT Battery is to provide descriptive information regarding the individuals tested. The use of carefully defined job elements gives this descriptive data a more direct type of meaning than is usually available from factor scores. This enables the individual to learn about himself in terms which he can interpret when special situations require new predictions.

Use of the FACT Battery in Counseling

In order to facilitate the use of the FACT Battery in counseling three special features of the battery are brought to the attention of counselors. These features are as follows:

1. Based on validation data available for both these tests and similar tests, and authors have proposed specific combinations of test scores for predicting success in 30 broad occupational groups. Although with the data available at the present time it must be recognized that the judgments presented are fallible, it seems likely that these combinations which are based on a thorough and systematic review of findings from many relevant studies will be more stable and better predictors than combinations somewhat more intuitively arrived at by counselors and students. Such a procedure appears defensible only as a temporary expedient while adequate follow-up validation data are being collected and analyzed. However, it is not expected that these follow-up data will result in large changes in the sets of test scores recommended for combination to obtain predictions for the various occupational groups.
2. A frequently neglected aspect of prediction is the level of the predictive score needed for success in a particular training course or occupation. In TABLE 2 is shown a chart based on the tentative data available which establishes for each occupation the range of occupational stanines within which an individual can be encouraged to enter or prepare for that occupation. It is suggested that persons falling in the shaded areas on TABLE 2, should *not* be encouraged to enter that particular occupation. Eighty per cent of the persons who have entered and were successfully engaged in the occupation one year after graduation from high school are included at the right of the shaded area. In the cases of farmer, humanities professor, mathematician, physicist, airplane pilot, psychologist, and social scientist, not even tentative data were available. To complete the table, estimates based on other information have been included for these occupations. It will be noted that the lowest minimum occupational stanine is indicated for "salesperson" (3—) and the highest minimum occupational stanine is indicated for "engineer" (7+). In making comparisons in this table it should be remembered that the various occupational stanines are based on different test score composites. It is especially noteworthy that two-thirds of the persons who were successfully completing a year of college work in engineering and were satisfied with their choice had engineer stanines of 8 or 9. Nearly 90 per cent had stanines of 7, 8, or 9.
3. An important feature of the FACT Battery is the immediate usefulness to the individual tested of the description which the test scores provide in terms of the samples of his performance involved in the measurement of each job element. The final choice of an occupation should never be based on the results from aptitude testing alone.

Minimum Occupational Stanines Recommended on the Basis of Values Exceeded by 80 Per Cent of the Satisfied and Successful Entrants in These Occupations or in Corresponding Training Courses

Minimum Occupational Stanines Recommended on the Basis of Values Exceeded by 80 Per Cent of the Satisfied and Successful Entrants in These Occupations or in Corresponding Training Courses
(Tentative Data)

Occupation	*Stanine*																								
	1−	*1*	*1+*	*2−*	*2*	*2+*	*3−*	*3*	*3+*	*4−*	*4*	*4+*	*5−*	*5*	*5+*	*6−*	*6*	*6+*	*7−*	*7*	*7+*	*8−*	*8*	*8+*	*9−*	*9*	*9+*
Accountant	10	11	13	14	15	16	17	18	19	21	22	23	24	25	26	28	29	30	31	32	33	34	35	36	37	38	45
Artist	10	11	13	14	15	16	17	18	19	20	21	22	24	25	26	28	29	30	31	32	33	34	35	36	37	38	45
Biological Scientist	8	9	10	11	..	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	..	29	30	31	36
Businessman	8	9	10	11	..	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	..	27	28	29	..	30	36
Chemist	8	9	10	11	..	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	..	30	31	36
Clerk, Office	14	15	16	17	18	20	21	23	24	25	26	28	29	31	32	33	34	36	37	38	40	41	42	43	44	45	54
Dentist	13	15	16	17	19	20	21	22	23	25	26	27	29	30	31	33	34	35	36	38	39	40	41	42	43	44	54
Draftsman	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	31	32	33	34	36	37	38	39	45
Electrician	8	9	10	11	12	13	..	14	15	16	17	18	19	20	21	22	23	..	24	25	26	27	28	29	..	30	36
Engineer	14	15	16	17	18	19	21	22	23	24	26	27	28	30	31	33	34	36	37	38	40	42	43	45	46	47	54
Farmer	6	7	..	8	9	..	10	11	..	12	..	13	14	..	15	16	17	..	18	19	20	21	22	23	..	24	27
Humanities Professor	5	6	7	..	8	9	..	10	11	12	13	..	14	15	16	17	..	18	19	..	20	21	..	22	23	..	27
Lawyer	8	9	..	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	..	26	27	28	29	..	30	36
Machinist	16	17	18	19	20	21	22	23	24	25	26	28	29	30	31	33	34	35	36	38	39	40	42	43	44	45	54
Mathematician	6	7	..	8	..	9	10	..	11	12	13	..	14	15	16	17	..	18	19	20	..	21	22	..	23	..	27
Mechanic	14	15	16	17	18	20	21	22	23	25	26	27	29	30	31	33	34	35	37	38	39	41	42	43	45	46	54
Nurse	6	7	..	8	..	9	10	..	11	12	13	..	14	15	16	..	17	18	..	19	20	21	.	22	..	23	27
Physician	9	10	..	11	12	13	14	15	..	16	17	18	19	20	21	22	23	24	.	25	26	27	28	.	29	30	36
Physicist	6	7	..	8	..	9	10	..	11	12	13	..	14	15	16	17	..	18	19	20	..	21	22	.	23	.	27
Pilot, Airplane	17	18	19	21	22	24	25	26	28	29	31	32	34	35	37	38	40	41	43	44	46	47	49	50	51	53	63
Plumber	8	9	10	11	12	13	14	15	..	16	17	18	19	20	21	22	23	24	25	..	26	27	28	29	30	31	36
Printer	5	6	7	8	..	9	10	..	11	12	13	..	14	15	16	..	17	18	19	..	20	21	.	22	23	.	27
Psychologist	5	..	..	4	..	5	6	..	7	..	8	9	..	10	..	11	12	..	13	..	14	..	15	16	..	..	18
Salesperson	5	6	7	..	8	9	10	..	11	12	13	14	..	15	16	17	..	18	19	..	20	21	.	22	..	23	27
Secretary	5	6	7	..	8	9	..	10	11	12	13	..	14	15	16	17	..	18	19	..	20	21	..	22	23	.	27
Social Scientist	5	..	..	4	..	5	6	..	7	..	8	9	..	10	..	11	12	..	13	..	14	.	15	16	..	..	18
Social Worker	3	..	..	4	..	5	6	..	7	..	8	9	.	10	..	11	12	..	13	..	14	..	15	16	..	..	18
Structural Worker	12	13	14	15	..	16	17	18	19	20	22	23	24	25	26	27	28	30	31	32	33	34	36	37	38	39	45
Teacher	3	..	..	4	..	5	6	..	7	..	8	9	..	10	.	11	12	..	13	.	14	..	15	16	..	..	18
Writer	5	6	7	..	8	9	..	10	11	12	13	..	14	15	16	17	..	18	19	..	20	21	..	22	23	.	27
College Aptitude (Gen.)	3	..	..	4	..	5	6	..	7	..	8	9	..	10	..	11	..	12	13	..	14	15	..	16	..	..	18

Therefore, in combining information about aptitudes with other estimates of interests, personality factors, and experiences in school courses, and in performing specific tasks and jobs, it is especially useful to have the information regarding aptitudes in such a form that the individual can predict not only his overall likelihood of success in an occupation, but the specific elements and tasks in the occupation in which he will be especially strong or especially weak.

Counseling is both difficult and important. In connection with a recent follow-up study [7] the authors found that 16 per cent of the group who entered specific jobs after graduating from high school were unsuccessful or dissatisfied with their jobs. Similarly, 11 per cent of the group who entered college or some other type of advanced school to train for a specific occupation were unsuccessful or dissatisfied. If one takes a broad view as to the function of counseling all of these failures may be classified as counseling failures. About two-thirds of the persons entering jobs and half of those entering training involved individuals whose failures could have been predicted on the basis of the aptitude test scores alone. The aim of the multifactor test batteries is to assist counselors in eliminating all such failures. It is hoped that the extensive follow-up program with the new FACT Battery will contribute to this aim.

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COMMENTS

A TEST CONSTRUCTOR's lot, if I may paraphrase Gilbert and Sullivan, is not a happy one. Like a writer of books, he is an author, he spends a great deal of time in preliminary planning, preparing drafts, revising them, trying them out, and revising them again. After two, three, or four years of such work the author of a book sees his work appear in print, but for the test author the preliminary work usually continues for two or three times as long. When the book appears, it may be praised, slighted, or condemned, but hardly criticized as prematurely published; when finally published, the test, on the other hand, is almost invariably greeted with the criticism that not enough data have been collected and analyzed to justify the publication or the recommended use. Authors of books rarely have their products criticized on ethical grounds; test authors are very likely to find the legitimacy of their offspring questioned.

The *FACTS Battery,* which Flanagan has precisely and objectively described, is no exception. In the 1956 *Annual Review of Psychology* [*1*:178] Cronbach referred to the publication of its manual as "a step backward" because of the paucity and irrelevance of the preliminary validation data. Writing at about the same time, Thorndike and Hagen stated that "little evidence of the validity of the specific tests is offered. The basis for the recommendations appears to be largely the author's judgment, supported by collateral evidence from other tests bearing some resemblance to his. Most psychologists would take exception to the sweeping interpretations based on such limited and indirect evidence

[2:255]." Both of these authorities were critical of the battery specifically because its claimed usefulness is not supported by sufficient evidence: in other words, they believe it was published prematurely.

When is a test, or a test battery, ready for publication? How much data must one publish, and how cautious must statements concerning usefulness be? Cronbach was chairman of an APA committee which wrestled with these problems several years ago in preparing the publication on *Technical Recommendations for Psychological Tests,* and is well aware of how difficult it is to decide just when a test is sufficiently well supported by data to justify publication as a useful tool. In considering the FACTS Battery, then, our question must be, does the accusation of premature publication and unduly sweeping claims mean that the battery is not to be used by counselors? Our question must also be, just how sweeping are the claims?

In discussing the validity of his battery in the present paper Flanagan points out that the two first validation studies, by Latham and Volkin, were part of the preliminary work which led to the development of the battery published in 1953. In the manual, however, the validity discussion on page 10 refers to Volkin's study as the data source without pointing out that this involves using data derived from the preliminary battery which preceded the development of the published battery. There is therefore justification for the accusation that the manual is sketchy and misleading if one reads it unquestionably. But it should be added, now, that the manual was followed in 1956 by data from a new validation study based on the published tests, discussed in the paper preceding these comments. The manual stated that "It should be emphasized that additional follow-up studies are needed to determine the predictive value of the present combined vocational aptitude scores," and three years later one such study was published. Flanagan calls it an "initial study" and states that further studies of this type are being undertaken to provide additional occupational norms based on the post-school occupations of boys and girls tested while still in school.

This procedure is reminiscent of what took place during World War II, when the Air Force decided that pilots were to be selected on the basis of tests which were, shortly after Pearl Harbor, still in an experimental stage and lacking in validity data. Flanagan and his staff got out their crystal ball and assigned weights to the most promising looking experimental tests, thus obtaining stanines which determined whether or not a man went to pilot training. *But they also followed those men up to see what happened to them and how good the tests and guessed weights turned out to be.* They proved to be not too far off, not too different from the empirical weights. The reason, of course, was good job analysis work which led to the decisions concerning the preliminary, arbitrary, weights.

Now it is of course true that having been a good guesser once under emergency conditions, when guessing by someone was essential, does not justify guessing a second time when there is no emergency. The question is, was there an emergency?

Flanagan has made it clear that his norming and validation plan is an unusual one. He might properly have called it unique. Unlike the authors of the GATB, he apparently decided not to do his occupational norming the easy way (in so for as any way is easy) by testing persons employed in the occupations being studied. Since the tests were to be used in counseling high school students about later careers, he chose the difficult but only proper way: testing the boys and girls while in school and getting later occupational data. This is a more difficult method and goal than settling for educational norms and validities, as was done by the DAT authors, or for factor "validity" (purity) as was done by Guilford and others.

Obtaining the cooperation of school officials in the large scale administration of unpublished, experimental tests is very difficult; it is difficult enough with published tests of known validity. In this sense, then, Flanagan (like any other test author) pre-

sumably faced something of an emergency. Perhaps getting cooperation in his own community for preliminary studies, and then publishing on the basis of limited data with the declared intention of getting the additional needed data, is the best way available to a test author seeking to do a scientific and professional job of test development. It is easy for test specialists who do not publish tests to criticize this method, but as a test specialist who now specializes in criticism I prefer to recognize the very real problems faced by test constructors—as one who may want to publish a test someday myself, I doubt whether I can comfortably throw the first, or even third, stone.

The real proof, then, lies in the continuing accumulation and publishing of evidence. Flanagan points out that his thirty broad occupational groups and aptitude scores may be based on faulty judgment, but he declares his intention to check the judgment by collecting a large mass of data during 1957, and he has published data accumulated before and since publication of his battery.

With this long introduction, let us turn to a few brief comments on the tests, designed to help with the judgment of whether or not they deserve preliminary, tentative, use and the accumulation of more data. The "job elements approach" is to be commended, for it is an ingenious combination of job analysis methods and factor analysis concepts; one could wish for detailed publication of the data on the "thirty-five typical occupations" analysed, so that one could evaluate the method and its results. How, for example, does it differ in method and results from the *Minnesota Occupational Rating Scales* and the functional analysis of occupations of the USES? The recognition, in the manual and in the article, of the need for empirical validation is also to be commended.

The tests themselves show considerable ingenuity. Instead of merely copying the types of items previously found useful in other research, Flanagan has devised new item-types designed to measure the job elements previously identified. In doing this he has, obviously, built on experience with older item-types. The Inspection Test and the Patterns Test may be mentioned as illustrations, together with the newer Alertness Test. Unfortunately, the printing of some of the tests is not attractive, and therefore perhaps not as effective as it might be: the paper seems of poor quality, in most instances looking slightly browned with age (perhaps inevitable when self-marking carbon is used); and the typography is not very pleasing, sometimes seeming crowded. The impact of a day of testing with such materials might be bad, but not having tried them that way I may be giving a purely personal reaction.

It is worth noting that even though the battery as a whole takes two school days, or one school day if one uses just the high-level-occupation or just the low-level-occupation tests, the various tests do not correlate with each other any more than .50, and the median intercorrelation is 0.29. This is very good for a multifactor battery, especially one which has not been factorially refined by repeated analysis and redesigning.

In summary, the *FACTS Battery* is an ingeniously constructed battery based on excellent preliminary experience in large scale test development work. Its printing may leave something to be desired, but this is a minor problem. The proposed validation method, which has so far been carried out in a small but nonetheless consistent and persistent way, is the only instance of the use of this uniquely sound method of occupational test development with multifactor guidance tests. It should be the universal method, although not necessarily the only one. The test author shows a recognition of the need for empirical validation and reminds his readers of this need, even while suggesting the marking of sweeping inferences from limited evidence. That fact that he plans to collect and make available the needed empirical data for this otherwise sound battery leads this reviewer to conclude that the author's work deserves support. The sophisticated users of tests in counseling and selection will be cautious in making interpretations and predictions from the FACTS stanines, but will

welcome the checking of his judgments against Flanagan's, and the farsighted researcher will recognize that here is a battery which deserves further investigation and validation.—DONALD E. SUPER

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Women Graduates of Cooperative Work-Study Programs on the College Level

WANDA MOSBACKER

THE SYSTEM of cooperative education, often cited as the most outstanding contribution to higher education in the twentieth century, is best defined as [3]

> that type of curriculum which includes alternation of regularly scheduled instructional periods in school and periods of employment in business or industry with definite provision for integrating work experience into the total education of the student.

From time to time since the introduction of the plan fifty years ago, the question has arisen as to how valuable cooperative work experience has been to those who graduated. Although the earnings of the students on cooperative jobs are an important by-product, they are nevertheless of secondary importance; the balanced training achieved through cooperative work experience is of primary importance. Many persons who do not understand the basic philosophy of the cooperative programs associate this system of education mainly with the idea of partial or total support which it provides. The cooperative system as it operates at the college level, however, is more than a plan to finance an education for students of limited means. The earnings are, of course, valuable, and on this point there is little question. It is regarding the educational values that there is much speculation. To coordinators who counsel undergraduate students in the cooperative programs and who act as liaison officers between the schools and businesses, there seems to be little doubt that the often-cited advantages of cooperative education actually do exist. These advantages are usually based on assumptions which appear obvious but which have not been proved by objective analysis.

A recent follow-up study of all the women graduates of the cooperative programs at the University of Cincinnati, the birthplace in 1906 of the cooperative system of education [1], lends strong support to the premise that cooperative education makes a definite contribution to the student's preparation for responsible permanent employment and for success in terms of service and social usefulness. The follow-up study was limited to the women graduates of the cooperative programs at the University of Cincinnati. Although the cooperative system was introduced at the University of Cincinnati in 1906, women were not admitted to all of the cooperative programs until almost twenty years later. In all, 8967 men and 577 women have received degrees from the cooperative courses at the University of Cincinnati. The follow-up study was planned to determine what these 577 women graduates have been doing since receiving their degrees and to learn what they think of the cooperative program they followed in college.

A questionnaire was formulated with two principal objectives in mind: 1. How do the lives of the women graduates of the cooperative courses at the University of Cincinnati compare with those of other college graduates and with the population of the United States as a whole? 2. In the light of experience, how valuable do the graduates think the cooperative program has been?[1]

The questionnaire was mailed to all of the women graduates of the cooperative courses at the University of Cincinnati. It was to be returned unsigned, and it was not coded in any way for identification. Three hundred and six replies were re-

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[1] For purposes of comparison with evaluation studies at other educational institutions, several of the specific questions about the co-operative work were patterned after those used in two earlier follow-up studies, one at Rochester Athenaeum and Mechanics Institute (3) and one at Fenn College [4].

ceived,—*i.e.*, a 55.6 per cent of the total net sample. The numbers returned by colleges were as follows (the numbers in parentheses indicate the percentage of those sent out):

College of Business Administration	205 (63.0%)
College of Applied Arts	86 (42.5%)
College of Engineering	15 (62.5%)

A comparison of the questionnaires sent in response to the first mailing and those returned in response to the second indicated a marked similarity. It is recognized that those who respond to questionnaires are more apt to be those who are the most satisfied or the most dissatisfied with the topic or situation being questioned. The fact that there was only a 42.5 per cent return of questionnaires by graduates of the College of Applied Arts leaves some doubt about non-correspondents. Nevertheless, it is believed that the sample on which the study is based for the College of Business Administration, the College of Engineering, and the total response is a workable representation of all the women graduates of the cooperative programs at the University of Cincinnati. Also it is believed that the rapport which the coordinators, the deans, and the faculties of the three colleges have with most of the women graduates is exceptionally good. Therefore it is believed that the graduates have expressed with considerable accuracy their feelings about the cooperative programs at the University of Cincinnati.

Questionnaire Results

On the whole, the picture presented by the 306 women graduates of the cooperative colleges is very encouraging and stimulating. When compared to all women college graduates in the United States, the salaries of the graduates of the cooperative colleges of the University of Cincinnati average higher; and the number of graduates who are working as proprietors, managers, executives, and professional workers compares very favorably to the national average for women [2]. Also, contrasted to the women college graduates throughout the United States, it seems that the women graduates of the cooperative courses either had more chances to marry or were more interested in marriage than the average college coed, for only 23.3 per cent of the women cooperative graduates never married as compared to 31 per cent for women college graduates throughout the United States [2]. The survey indicates, moreover, that once married they tend to stay that way. The percentage of women in the United States living alone as divorcees, widows, or through separation is 22 per cent [2]; for graduates of the cooperative colleges it is 1.3 per cent. For college women throughout the United States this figure is 9 per cent [2]. Although proportionally more of the married graduates of the cooperative colleges are having families than the United States population, the families are more likely to be small or medium-sized.

In so far as the survey was able to measure political activity, only one graduate had run for public office, but a much greater number proportionally than the national average voted.

Five of the graduates replying to the questionnaire were or are in the Armed Services. All are commissioned officers; the highest ranks attained are those of Lieutenant Commander in the United States Navy and Captain in the Air Force. Three more of the graduates served as Red Cross Workers during World War II.

Twenty-six and eight-tenths per cent of the graduates of the College of Business Administration, 15.1 per cent of the College of Applied Arts, and 40 per cent of the College of Engineering have taken additional college work since graduation.

Reaction of Graduates

In the world of education, just as in the business world, one measure of success is the number of satisfied customers; the number of graduates who are still pleased with their choice of college and college

course should be a measure with a certain amount of validity. In their report on college graduates in the United States, Havemann and West [2] present the following statement in this connection:

> This does not mean that the testimonials or complaints of former students can be taken as the final verdict on the value of higher education as practiced in the United States. A testimonial might mean only that the graduate was taught in college to be smug about his own learning and accomplishments, not that he was really well educated or taught any real accomplishments. A complaint might mean only that the graduate is a chronic misfit and misanthrope who dislikes everything he has seen of the world and of himself. But even considering these objections, it seems profitable to examine what college graduates think of their college experience.

If the graduates of the cooperative colleges had it all to do over again, the survey indicates that an overwhelming percentage (91.8 per cent) of the graduates would again choose a cooperative schedule. The fact that such an overwhelming majority would choose to return to college on a cooperative basis lends significance to the high percentage (83 per cent) who indicated that their cooperative job experiences, considered in the light of what they have done since graduation, have been of considerable importance to them. The graduates indicated that the two objectives most adequately achieved in the cooperative programs were that they were provided with a clearer understanding of the working conditions and discipline required in business, industry, and art professions, and an increased ability to get along with people.

Two of the objectives that are frequently stated in the catalogs of the colleges offering cooperative programs: "Increased interest in classwork as a result of cooperative experience" and "Increased interest in chosen course of study" are ranked by the graduates in the last two positions of the ten objectives listed. Financial assistance is not considered as one of the major objectives adequately achieved by the women graduates. However, a tabulation of the reasons for choice of college shows that 31.7 per cent of the cooperative graduates chose a cooperative course because of the "opportunity to earn a portion of expenses through the cooperative system." To what extent they accomplished this is shown by the following percentages: 35 per cent earned between 75 per cent and 100 per cent of their total college expenses excluding clothing costs; 22.9 per cent earned between 50 and 74 per cent of their expenses, and 20.9 per cent earned between 25 and 49 per cent of their expenses.

College graduates are often accused of drifting from job to job when they leave college particularly during the first two years after graduation. Since one of the advantages of cooperative education listed in the literature of the cooperative colleges is: "Through the cooperative plan, a stu-

TABLE 1

Objectives Achieved Through Cooperative Programs

Provided a clearer understanding of the working conditions and discipline required in business and industry	Yes	92.5%
	No	3.6%
	No. Ans.	3.9%
Increase in ability to get along with people	Yes	90.8%
	No	4.9%
	No. Ans.	4.3%
Better understanding of interests, abilities, and limitations leading to a wiser choice of vocational field	Yes	74.5%
	No	17.3%
	No. Ans.	8.2%
Increased interest in furthering professional growth	Yes	64.7%
	No	25.5%
	No. Ans.	9.8%
Financial assistance made possible an education which otherwise would have been unattainable	Yes	62.8%
	No	31.7%
	No. Ans.	5.5%
Training in a definite occupational area	Yes	61.1%
	No	32.4%
	No. Ans.	6.5%
Provide contacts for securing employment after graduation	Yes	59.7%
	No	32.4%
	No. Ans.	7.9%
Increased interest in classwork as a result of cooperative experience	Yes	52.9%
	No	38.6%
	No. Ans.	8.5%
Increased interest in chosen course of study	Yes	50.3%
	No	53.6%
	No. Ans.	14.1%

dent is given almost immediate assistance in choosing a career, as the work experience enables her to try out her interests as she is placed on different jobs." One of the questions in the survey inquired what specific occupations the student planned to follow when in college, what occupation she actually followed during the first year or so after college, and what occupation she followed during most of her adult life, in an attempt to learn if the cooperative experience actually did give the student assistance in choosing a career. Sixty and eight-tenths per cent of the graduates entered the same occupation during the first year after college as they indicated they planned to follow while in college, 12.7 per cent entered related occupations. The cooperative graduates made very few changes of jobs during the first two years after finishing college. During these first two years, 75.5 per cent did not change jobs at all, 18 per cent changed once, and 3.9 per cent changed twice.

The evidence produced by the questionnaire returns seems strongly to support the premise that cooperative education at the college level makes a definite contribution to the student's preparation for responsible permanent employment and for success in terms of service and social usefulness.

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HOME STUDY BLUE BOOK

The 19th edition of the *Home Study Blue Book* is now available and will be sent on request to any counselor, training director, personnel director, or school official.

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Differential Prediction of High School Achievement Using Single Score and Multiple Factor Tests of Mental Maturity[1]

F. E. WELLMAN

THE PURPOSE of this study was to determine the effectiveness of a single score test and a multiple factor test of mental ability as a battery for differential prediction of ninth and tenth grade achievement.

The prediction variables used were (1) the Gamma IQ scores obtained from the Otis Quick Scoring Mental Ability Tests, Gamma Form AM, (2) the raw scores of the verbal meaning, space, reasoning, number, and word fluency factors obtained from the SRA Primary Mental Abilities Test, Intermediate Form AH, and (3) the total raw score on the PMA obtained from Thurstone's weightings.

Teacher marks were used as the criteria of achievement. Marks were assigned on the basis of 100 with the higher mark indicating the higher level of achievement. The areas of achievement studied were: (1) *English* as determined from the average of four ninth and tenth grade semester marks; (2) *Science* as determined from the average of two ninth grade semester marks in general science and two tenth grade semester marks in biology; (3) *Mathematics* as determined from the average of two ninth grade semester marks in algebra and two tenth grade semester marks in plane geometry; and (4) *total ninth and tenth grade achievement* as determined from the average of semester marks in all courses for these grades.

The sample studied was taken from the eleventh and twelfth grade classes in the Iowa Falls High School, Iowa Falls, Iowa, during the school year 1953–1954. The Otis was administered to these pupils in the first semester of the ninth grade and the PMA in the first semester of the eleventh and twelfth respectively. Complete data were available for 136 of the 154 pupils in the two groups. The twelfth grade class obtained verbal meaning, number and PMA total scores which were significantly higher than the eleventh grade class. This might be expected since the twelfth grade was, on an average, one year older at the time the test was administered. The girls of the two classes achieved significantly higher English marks and the boys significantly higher PMA space scores. The variability which might be attributed to differences in performance between the two classes and between boys and girls was controlled by using the within sums of squares for the class and sex groups, as is usually done in analysis of covariance. This technique was facilitated by sampling (by random numbers) each sub-group to equal size. The final sample consisted of 120 pupils equally divided by class and sex. The mean scores for the sample on the criteria and prediction variables are presented in TABLE 1.

Procedure

The following procedure was used to evaluate the predictive effectiveness of the test battery and individual tests in the battery:

1. Intercorrelations were computed for each criterion and each prediction variable.
2. Analysis of multiple regression was used to determine the degree of effective-

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[1] Journal Paper No. J-3004 of the Iowa Agricultural Experiment Station, Ames, Iowa. Project No. 1301.

TABLE 1

Mean Scores of Criteria and Prediction Variables

	11th Grade Boys	*11th Grade Girls*	*Total 11th Grade*	*12th Grade Boys*	*12th Grade Girls*	*Total 12th Grade*	*Total Sample*
N	*30*	*30*	*60*	*30*	*30*	*60*	*120*
English	80	87	83	83	85	84	84
Science	84	85	85	86	83	84	84
Mathematics	85	86	85	86	85	86	85
9–10 Average	84	87	85	85	85	85	85
Otis	104	104	104	106	99	102	103
Verbal meaning	26	29	27	33	29	31	29
Space	29	18	23	32	22	27	25
Reasoning	17	19	18	19	19	19	18
Number	20	21	20	23	26	24	22
Word fluency	38	41	39	40	39	40	39
PMA Total	165	167	166	188	179	184	175

ness in the prediction of each criterion. All prediction variables except PMA total score were used. The PMA total score could not be included in the regression equation because it was derived from the five factor scores which were part of the equation.

3. Each prediction variable was eliminated from the regression equation and the significance of loss in predicting each criterion was computed using the F test.

4. Multiple regression equations were developed for the prediction of each criterion from those prediction variables which could not be eliminated without significant loss.

5. The predictive effectiveness of the best combination of PMA factor scores weighted by regression was compared with the PMA total score derived from Thurstone's weighting of the factor scores.

The intercorrelations of the different criteria and the prediction variables are shown in TABLE 2. The intercorrelations of the prediction variables, with the exception of PMA total score, were not high enough to indicate that they should not be used as part of a unified test battery. In most cases these variables produced higher correlations with the criteria than with each other. The relationship of the independent variables to the criteria and the relatively low intercorrelations of the variables logically indicate the usefulness of this battery for predicting differential high school achievement as measured by these criteria. It should be noted, however, that the high intercorrelations of the criteria may indicate that differential achievement is not demonstrated by these divisions of school achievement.

Evaluation of Prediction Variables

Analysis of multiple regression was used to determine the effectiveness of each combination of variables for predicting the differential criteria. The variables were eliminated one at a time from the regression equation and an "F" test was computed to determine the significance of loss in prediction resulting from each elimination. The results of these analyses are presented in TABLE 3.

These data indicated that each criterion could be effectively predicted from the scores on this test battery. The elimination of the tests, one at a time, revealed that all components of the battery were not essential to predicting achievement for this sample. The PMA space, reasoning, and word-fluency scores could be eliminated from the battery without significant loss in predicting English, science, and 9–10 grade average achievement. The prediction of mathematics achievement was not reduced by the elimination of the PMA verbal-

TABLE 2

Intercorrelations of Achievement Criteria and Prediction Variables

	Y_2	Y_3	Y_4	X_1	X_2	X_3	X_4	X_5	X_6	X_7
English—Y_1	.866	.724	.944	.731	.605	.227	.471	.516	.347	.690
Science—Y_2		.687	.899	.746	.655	.241	.516	.529	.363	.680
Mathematics—Y_3			.847	.649	.406	.503	.466	.411	.169	.569
9–10 Average—Y_4				.767	.600	.286	.508	.507	.306	.701
Otis—X_1					.576	.238	.526	.529	.344	.623
Verbal-Meaning—X_2						.262	.378	.271	.365	.653
Space—X_3							.284	.193	.113	.564
Reasoning—X_4								.254	.166	.621
Number—X_5									.206	.741
Word-Fluency—X_6										.526

X_7 = PMA TOTAL

TABLE 3

Multiple Correlations with Criteria and Loss in Prediction by Elimination of each Variable

Variables	*English*	*Science*	*Mathematics*	*9–10 Average*
All	.8133	.8204	.7676	.8343
Elimination of scores:				
Otis	.7409*	.7545*	.6718*	.7433*
Verbal-Meaning	.7933*	.7875*	.7674	.8205*
Space	.8130	.8203	.6979*	.8335
Reasoning	.8112	.8137	.7650	.8311
Number	.7706*	.8062*	.7490*	.7997*
Word Fluency	.8125	.8192	.7635	.8342
All Non-significant Variables	.8105	.8127	.7599	.8295

*Significant loss in prediction at 1 per cent level.

meaning, reasoning, and word-fluency scores. The differences in predictive effectiveness of the six score combination and the essential three score combinations were not statistically significant for any criterion. The Otis, verbal meaning, and number scores provided an effective battery for predicting English, science, and 9–10 grade average achievement, while the most effective combination of variables for predicting mathematics achievement was Otis, space, and number scores.

The best combination of three prediction variables was associated with 66 per cent of the variance in English and science achievement, 58 per cent in mathematics achievement, and 69 per cent in 9–10 grade average achievement. The contribution of each variable to that portion of the variance which could be predicted for each criterion was computed and is shown in TABLE 4.

The Otis scores were associated with 55 per cent or more of the predictable variance in the case of all criteria. Somewhat contrary to the logical association of test titles with achievement in different school courses, the number score contributed

TABLE 4

Percentage Contribution of Each Variable in the Essential Battery to That Portion of Variance Predictable for Each Criterion.

Criterion	*Prediction variables*			
	Otis	*Verbal-meaning*	*Space*	*Number*
English	55	22	*	23
Science	57	31	*	12
Mathematics	57	*	30	13
9–10 Average	62	18	*	20

* Eliminated in predicting this criterion.

slightly more to the prediction of English achievement than the verbal-meaning score; the verbal-meaning score contributed more to the prediction of science achievement than the number score; and the space score contributed more to the prediction of mathematics achievement than the number score.

The predictive effectiveness of the Otis and PMA total scores was compared with that of the Otis and PMA factor scores to determine the advantage, if any, of using factor scores for predicting differential achievement. Since the PMA total score was derived from Thurstone's weighting of the five factor scores, it was necessary to compare the multiple correlations obtained from Otis and PMA total scores with those obtained from Otis and the five PMA factor scores. This comparison was made by computing F values to determine the significance of differences in predictive value when the factor scores were combined into a total score as opposed to regression weighting of each factor score. The resulting coefficients of multiple correlation and the derived F values for each criterion are presented in TABLE 5.

TABLE 5

Comparison of Differential Predictive Value of Otis Combined with PMA Total and Otis Combined with PMA Factor Scores Weighted by Regression

Criterion	*Otis and PMA total*	*Otis and PMA factors*	$F_{4,118}$‡
English	.7897	.8133	3.17*
Science	.7955	.8204	3.47*
Mathematics	.6824	.7676	8.51†
9–10 Average	.8184	.8343	2.43

* 5% level of significance
† 1% level of significance
‡ Derived from formula:

$$F_{n,N-m-1} = \frac{[R^2_{y(1,2\cdots m)} - R^2_{y(1,2\cdots m-n)}]\ [N-m-1]}{n[1-R^2_{y(1,2\cdots m)}]}$$

where:
N = Number of cases.
m = Number of variables used in regression weighting.
n = Difference in number of variables in the two methods.

The comparison of the two methods of utilizing the scores of this test battery for predicting differential achievement revealed that there was a statistically significant advantage in using PMA factor scores rather than the PMA total score, but that this advantage was not statistically significant in predicting average achievement where no differentiation was made between academic areas. The advantage of using the factor scores for the prediction of mathematics achievement was somewhat greater than in the other areas of achievement. Present statistical procedures do not permit a direct comparison of the three variable regressions of the essential battery with the two variable regressions of Otis and PMA total scores. However, since no statistically significant difference was found between the predictive value of all six variables and the essential battery of three variables (TABLE 3), it was assumed that the best combination of three variables would have approximately the same predictive advantage over the Otis and PMA total scores as the six variable combination.

Regression Equations

The multiple correlations were of significant magnitude to indicate value in individual prediction and counseling. Regression equations were developed, in raw score form, for the prediction of each criterion. When used with ninth grade pupils these equations will tend to underestimate English and science achievement about three points and mathematics and 9–10 grade average achievement about two points. This is attributable to the higher average scores attained by the pupils in this sample who were in the eleventh and twelfth grades when the PMA was administered. The derived regression equations and the standard error of estimate for each are as follows:

English Achievement

$$Y_1 = .34269X_1 + .20468X_2 + .24268X_5 + 36.92$$
$$\sigma \text{ est.} = \pm 4.47$$

Science Achievement

$$Y_2 = .28627X_1 + .21980X_2 + .12235X_5 + 45.81$$
$$\sigma \text{ est.} = \pm 3.64$$

Mathematics Achievement

$$Y_3 = .28233\,X_1 + .19755X_2 + .11992X_3 + 48.77$$
$$\sigma \text{ est.} = \pm 4.00$$

9–10 Grade Average Achievement

$$Y_4 = .28515X_1 + .12794X_2 + .16607X_3 + 48.35$$
$$\sigma \text{ est.} = \pm 3.15$$

or

$$Y_4 = .27387X_1 + .05622X_7 + 47.14$$
$$\sigma \text{ est.} = \pm 3.23$$

Where:

X_1 = Otis Gamma IQ
X_2 = PMA Verbal-meaning score
X_3 = PMA Space score
X_5 = PMA Number score
X_7 = PMA Total score

Summary of Findings

1. The high relationship with the criteria and the relatively low intercorrelations of the sub-tests indicate that a test battery composed of the Otis Quick Scoring Mental Ability Tests and the factor scores of the SRA Primary Mental Abilities Test may be used successfully for differential prediction of ninth and tenth grade achievement.
2. The evidence of this study indicated that the PMA reasoning, space, and word-fluency scores did not contribute significantly, in this battery, to the prediction of ninth and tenth grade English and science achievement, nor to over-all 9–10 grade average achievement. The PMA verbal-meaning, reasoning, and word-fluency scores did not improve the prediction of mathematics achievement from this battery.
3. An essential battery composed of the most effective prediction variables (Otis, PMA Verbal-meaning, and number scores) yielded multiple correlations of .8105 with English achievement, .8127 with science achievement, and .8295 with 9–10 grade achievement. The essential battery of Otis, PMA space, and number factors yielded a multiple correlation of .7599 with mathematics achievement.
4. The Otis IQ contributed more to the prediction of the achievement criteria than any of the other variables examined. The prediction from Otis scores was, however, improved significantly by the inclusion of selected factor scores in the prediction battery.
5. There was a statistically significant advantage in differential prediction when PMA factor scores weighted by regression were used rather than the PMA total score derived from Thurstone's weighting. This advantage was not retained in the prediction of 9–10 grade average achievement. With the exception of predicting mathematics achievement, this advantage is probably of little practical significance.

Discussions

The use of a test battery, composed of a single score test of mental ability and a multiple factor test, for the prediction of differential achievement at the 9–10 grade level appears to be justified from the results of this study. The improvement in prediction, by the inclusion of the Otis, over the prediction from single scores or combinations of PMA factor scores, and likewise the improvement of the prediction from the Otis by including significant PMA factor scores, supports the conclusion that the counselor can greatly enhance prediction by employing a battery of tests rather than any one test. This is probably true regardless of the array of sub-test scores obtained from a single test if the battery is appropriately selected. With the large number of multiple factor tests now available to school counselors, there is need for immediate and comprehensive research to establish the specific values of these tests and to determine how they can best be used by the counselor. The interpretation of test scores can be improved by data which will show the degree of association of the results from a test battery with objective external criteria. Counselors cannot be expected to make the most efficient use of test results until these data are available.

Some test manuals and "interpretative aids" suggest to the counselor and pupil that the results of individual tests may be predictive of differential achievement in areas which appear to be logically associated with the titles assigned to the tests. The findings of this study indicate that these suggestions should be critically evaluated

before they are used in counseling with high school pupils. Although the scores of individual tests may be positively related to and make significant contributions to the prediction of differential achievement, the counselor should be aware of the value that a test battery may have for predicting the performance in question. In the final analysis, some tests which appear to be associated with differential achievement may have little or no value when included in a test battery which will more effectively predict the criterion. The fallibility of test titles has often been emphasized by writers of the field, but should be continually re-emphasized as a major point of caution to those responsible for the selection and use of psychological measures.

APGA RADIO-TV BULLETIN NOW AVAILABLE TO MEMBERS

The first issue of the *APGA Radio-TV Bulletin* is now available free to all members upon request to national headquarters. The Bulletin was prepared by the Radio-Television sub-committee of the APGA Public Relations Committee to "stimulate . . . Branches to produce, utilize, and promote programs for radio and TV in guidance areas."

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Also in this issue are lists of objectives and criteria for branches that want to produce their own radio or television shows on guidance, and a list of helpful resources. There are excerpts from a talk on "Television—Its Production, Utilization, and Evaluation" made by Gertrude Broderick, Radio-TV Education Specialist, at the 1956 APGA Convention. The final article in the Bulletin is on "Job Opportunities in Television" by the National Broadcasting Company.

The *APGA Radio-TV Bulletin* is designed to provide information on helpful resources and recent developments in educational television, and to serve as a center for the exchange of successful programs and ideas between Branches.

Adaptiveness and the Role of Parents In Academic Success[1]

GEORGE WEIGAND

In the April, 1953, issue of this *Journal* the writer discussed the importance of goal aspiration as a motivational factor associated with the success and failure of a group of probational students [*1*]. The study on which that article was based produced two additional factors which are associated with the relative academic success of these probational students, *viz:* (1) Adaptiveness and (2) Decision ability. In addition, it was found that the parents of these students were influential in supporting and reinforcing the differential behavior which contributed to the relative success of these two groups of students. Because of the lapse of time between the first article and this one, the highlights of the general introduction will be repeated.

Characteristics of the Study Group

A group of students (study population) who entered the University of Maryland, College of Special and Continuation Studies, in September, 1948, and who returned the following school year, represented almost an ideal group on which to investigate the importance of motivational factors in academic success. This statement is made because the group was relatively homogeneous in relation to high school performance and measured scholastic achievement and aptitude, and demonstrated variable performance in college.

The study population can be characterized in four ways. First, the students in the group were admitted on probation because of relatively poor high school performance. Second, each of these students had achieved or was working to achieve the 2.0 ("C") scholastic average which would permit him to enter the college of his choice. Third, each student had been given a course in effective study methods and a course in improvement of reading. Fourth, there were no statistically significant differences between the successful (2.0) students (N 41) and the unsuccessful students (N 40) in scores on tests of scholastic aptitude and achievement.

In order to elicit information concerning motivational factors, a semi-structured interview technique was employed. The interview schedule was completely memorized, and the order in which the questions were asked was determined by the response or responses of the interviewee. In all cases the interviewee was encouraged to free associate on each statement. The responses to the questions were analyzed and coded according to an *a posteriori* coding key designed to fit these reports. The chi-square technique was used to test any frequency discrepancies existent between the responses of the two groups. The calculated chi-square values were interpreted according to R. A. Fisher's table of sampling distribution of chi-square. Chi-square values with probabilities of 0.05 or less were accepted as significant.

In this article the importance of adaptiveness and the role of parents will be discussed. Adaptiveness or the adaptive factor were the terms adopted in this study to describe certain behavioral characteristics of these students, and imply merely that an individual's behavior is directed toward or is instrumental in goal achievement and/or problem solving. This is a relatively important concept when it is

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[1] Parts of the article on the "Role of Parents in Academic Success" were presented at the American Psychological Association meeting at Washington, D. C., Fall, 1952, session.

considered that there were no statistically significant differences in the kinds of experiences *per se* reported by these students. The important difference was in how an individual student interpreted and acted in relation to the experience or situation. The only exception to this statement was found in the differential home environments of these students; but even here the inter-personal relations between parents and children were the important aspects rather than physical aspects of the "house."

Aspects of Adaptive Behavior

The reports of the interviewees indicate evidence of adaptive behavior as early as grammar school. The respondents were asked to give an account of the first personal experience they could recall relative to grammar school. Although, as has already been mentioned, there were no statistically significant differences in the kinds of experiences reported, the final interpretations of those experiences did differentiate between the successful and unsuccessful probational students. As an example, when asked how they enjoyed grammar school, the successful students answered "very much" 12 to 1 over the unsuccessful students. In other words, it can be said that the residual feeling tones retained by these individuals are different, and allow the successful students to interpret their experiences in such a way that their over-all memories of grammar school are more pleasant than the ones reported by unsuccessful students. It is also possible to point to a similar situation in high school. While no direct inquiry was made relative to interpretation of high school experiences, the over-all attitudes toward high school and high school courses reported by these students did differentiate between the successful and unsuccessful students. The most important aspects of adaptive behavior, however, can be shown in the responses to questions relative to college. In an over-all rating of students' attitudes made from responses to questions concerning college, *e.g.*, amount of time spent in study, expressed attitudes in reference to college degrees and self-support in college, it was found that only 17 unsuccessful students as opposed to 35 successful students indicated favorable attitudes toward or general satisfaction with college. This, however, is what one would predict when one examines the expressed reasons for attending college. Successful students reported having chosen college for vocational reasons or because they wanted knowledge and/or education; unsuccessful students' responses were interpreted to mean that they expected a college education automatically to give them what they wanted with, it might be added, little or no work.

While the attitudes and reasons listed above are important in understanding the background of the postulation of an adaptive factor, the reported actual behavior of these individuals gives further indications of relative adaptiveness and serves as the observable basis for the postulation. Successful students more often than unsuccessful students voluntarily stated (*i.e.*, without being questioned) that they used the effective study devices taught in the study course (28 successful students as opposed to 11 unsuccessful students volunteered this information), and also expressed being helped by the effective study course (24 successful students and 11 unsuccessful students) in proportions which differentiated between them and unsuccessful students at a statistically significant level of confidence. It should also be pointed out here that when these students were asked how they felt when they entered a class, only 8 unsuccessful students as opposed to 22 successful students made replies which were interpreted as favorable. Certainly, one would predict that effective study techniques and favorable attitudes toward courses would be instrumental in successful performance in the academic situation [*1*, p. 460]. However, while these actions and attitudes are important in *differentiating* between the successful and unsuccessful students, it would be difficult for any student to succeed without adequate preparation for classes. For this reason each student was asked to make three estimates: (1) how much time the average student spent per week in study, (2) how much time the average student *should* spend in study,

and (3) how much time he (the student himself) spent in study. The successful students not only reported that they did more work than they estimated the average student did, but also more work than they, themselves, estimated the average student *should do*. This was not the case with unsuccessful students. Therefore, it can be said that successful students adapt to the amount of work they estimate is necessary for success, while unsuccessful students do not.

Further substantiation for the adaptive factor is found by examining the expressed general attitudes of these students toward school. In the attitudinal items which differentiated between successful and unsuccessful students, the largest contributions to the magnitude of the obtained chi-square values were made by the frequency discrepancies between successful and unsuccessful students in "favorable" responses. The successful students more often reported favorable memories of grammar school; reported favorable attitudes toward entering a class; reported that they were in favor of high school courses; and indicated favorable attitudes toward college and high school. The unsuccessful students more often reported or gave indications of unfavorable or neutral attitudes. Actually, the indications from this study are that unsuccessful students are more disinterested in school than they are opposed to school. Of course, it is possible that the unsuccessful students are rationalizing their failure by feigning disinterest and by reporting that they do less work. If this explanation is appropriate it is still further evidence that unsuccessful students are acting non-adaptively.

There is at least one additional aspect of behavior which indicates that successful students are more adaptive than unsuccessful students, not only in the academic situation, but also in personal relations and in the solution of problems. The members of the study population were questioned about their most serious personal problems, the disadvantages of their living quarters, and the kinds of sacrifices made to attend college. There were no statistically significant differences between successful and unsuccessful students when problems, disadvantages, and sacrifices *per se* were compared; *e.g.*, two students reported in reference to disadvantages of living quarters that it was difficult or impossible to study at home. However, when the additional comments were categorized, a difference was found. The successful student admitted that he could not study at home because of location and poor physical set-up. He continued, however, by saying that he parked his car in a secluded part of the student parking lot where he *did* study with no interruptions. This is adaptive behavior as defined here. The unsuccessful student made the same complaint. He admitted, however, that he had a good physical set-up at home for study, but that he could study *only* if he knew no one was making noise, *e.g.*, playing radio or television, or talking. (This student admitted he was far enough away from the activity center in his home so that the actual noise did not bother him.) This is non-adaptive behavior as defined here. One student studies; the other student also studies, but only if *circumstances permit* him to do so. This is only one example, but from the study it was found that, in general, the successful students had taken or were taking some action to alleviate the disadvantageous situations, while the unsuccessful students were taking either no action or no adaptive action to alleviate the disadvantageous situations.

It is therefore concluded that: (1) Evidence of adaptive behavior and attitudes differentiates between the successful and unsuccessful students not only in school situations but also in personal situations; (2) There is a general adaptive factor which is indicative of success in the academic situation.

While an adaptive factor, a goal aspiration factor, and a decision-ability factor were posited as indicative of relative success in the academic situation, it is possible to specify some of the general and specific conditions which appear to modify and reinforce the patterns of behavior which are the observable bases of these factors. Basically,

these patterns of behavior appear to be reinforced by certain parental attitudes and actions. This statement is not meant to imply that there are no other influences, but it is hypothesized here that since parent and child are responsible to each other during the formative years of the child's existence, the parents exert the greatest portion of the influence. One formulates the opinion after careful examination of the reports in the interview protocols that the parents of successful students are different both in actions and attitudes from the parents of unsuccessful students. These differences in actions and attitudes are demonstrated both in the general home environment and in specific situations.

In reference to general home environment, successful students indicated that their home-family environment was congenial and satisfying. These students reported that they "got along fine" or "average" with their parents more often than did unsuccessful students. The greatest differences in frequencies of responses were found, however, in the problem area. The unsuccessful students expressed or indicated that they had problems with their parents more often than did the successful students. In addition to indicating problems, these unsuccessful students more often interpreted home-family conditions as adverse conditions. This aspect is particularly important when it is considered that while there were no statistically significant differences in the kinds of situations mentioned by the two groups of students relative to their homes, the *interpretations* made concerning these situations differentiated between successful and unsuccessful students. Based on these interpretations, there was a significantly higher incidence of familial adversity reported by unsuccessful students. These reports consisted of separation, divorce, death of one parent, and alcoholism. The mere report of any of the above adversities did not constitute an adverse situation, but the degree of adversity was estimated from the interviewees' statements.

The following examples are given to show the differences between the reports of successful and unsuccessful students. One student (Paul, a successful student) reported that he lived in a rather poor section of town with his mother, his step-father, his sister, and his step-sister. A second student (Steve, an unsuccessful student) reported that he lived with his parents in a beautiful house in a "nice" section of town. Steve's parents were well-educated, and his father was an influential person. When asked about their parents, Paul said, "No one should have a step-father," while Steve reported that his father was a "swell guy," and that he "got along fine" with him. On the face of these two reports Steve was the more fortunate of the two. When the investigation was carried further, however, an entirely different impression emerged. Paul said, "No one should have a step-father," but then he continued, "but if he has to have one, he should have one like mine." Paul continued to explain how his step-father did everything in his power to help his children and to treat them equally, giving the picture of a father any child would "love to have." Steve, later in the interview, told about how busy and how bedeviled his father was; he stated that his father often returned home intoxicated. Steve then told about how his father would come into his room while "sloppy drunk" and talk to him, "bothering" him so he could not study.

Earlier in this article home environment was mentioned. An example of these specific home conditions is found in the different kinds of supervision reported by successful and unsuccessful students. The successful group reported less stringent regulation of evening hours than did the unsuccessful group. The members of the successful group also indicated that their parents attempted to get them to cooperate, or asked for so little that they felt cooperation was in order. The parents of successful students allowed for special occasions (school dances) and meetings of recognized groups (church groups and Boy Scouts) in a ratio of 10 to 5 over unsuccessful students. In other words, discriminatory rather than autocratic restriction was exercised. The unsuccessful students more often reported that they were closely supervised, that the

supervision was lenient, that there was no supervision, or that the parents could not control them. The indications from these differences are that the parents of the successful students exercised more positive supervision and/or inspired confidence to a greater extent than did the parents of the students in the unsuccessful group. Those parents who instill a desire for cooperation in their offsprings in home affairs may well be reinforcing a habit which is one of the determiners of success in later life.

The same kinds of attitudes shown by parents in reference to supervision are expressed relative to grades. Successful students reported that their parents were interested in their work and encouraged them. The unsuccessful students more often reported that their parents were dissatisfied with their school work. This is a very significant aspect of the total situation because it is an indication of the kind of reinforcement provided by parents. Eighteen of the unsuccessful students had averages (H.P.R.) of between 1.7 and 1.9.[2] When it is considered that these students needed only an H.P.R. of 2.0 to meet the conditions for getting off probation, one would expect these students to have received some encouragement from their parents. Only two unsuccessful students as opposed to eleven successful students reported that their parents encouraged them.

Many other differences between the two groups of parents could be cited, but one of the most important differences was evident in parental influence in the vocational area. It was reported in another paper [*1*] that the occupational goals chosen by successful students were considered desirable by them, and that their college courses were directed toward preparing them for the chosen goals. The unsuccessful students, on the other hand, had chosen occupational goals which they themselves did not consider desirable. Unsuccessful students' college courses were also more apt to be of a general nature and not preparatory for their chosen occupations. Why such a situation should exist can be easily explained. The attitudes and actions of the parents had a great deal to do with the kinds of choices these students had made. Successful students seemed to have made decisions based on their own interests, aptitudes, and experiences; unsuccessful students seemed to have been influenced by the interests of other persons. In many cases the parents of these unsuccessful students exercised a direct influence on the students' occupational choices; in other cases the influence consisted of sending the student to some influential friend or relative for advisement. The unsuccessful students had been told of "easy ways" to attain these goals. In addition, unsuccessful students had been told that a college education is important, but they indicated and demonstrated that they were not convinced. One might say that these unsuccessful students had been led to education but had not been made to think. This latter statement appears to be the crux of the differential parental reinforcement demonstrate by these two groups of students.

Conclusions

1. While goal aspiration, adaptiveness, and decision-ability are important in differentiating between successful and unsuccessful students, it is also important to specify conditions which reinforce and modify these factors.

2. A background of interest, encouragement, and democratic-positive supervision on the part of parents reinforces a generalized pattern of actions in their off-springs which is highly adaptive, not only in the academic situation but also in the solution of inter-personal and personal problems.

3. The successful student is one who has been taught to act as an adaptive individual in all situations, and this adaptive behavior has been supported and reinforced by favorable parental actions and attitudes.

[2] In 1949, the Registrar of the University of Maryland reported that the median average for sophomores was 2.04.

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A Therapeutic Approach To Test Interpretation

MIRIAM FARIES

THE VALUE of various types of psychological and achievement tests is so generally accepted that some battery of group tests is used in the majority of colleges today. All too frequently results obtained from the tests are used for administrative purposes only. Several reasons account for the fact that often students are kept in ignorance of their test performance.

Perhaps a major reason for using tests primarily for purposes of determining group averages and program scheduling is that in spite of continued refinement, both the validity and reliability of the instruments used are not as high as most counselors would wish. Also, it is generally recognized, perhaps it is even a truism, that such factors as the motivation of the student at the time of testing, his condition of mental and physical health, and personal pressures have a definite effect upon his test performance.

Depending on the orientation of the student, tests can be viewed as challenging, boring, or threatening. The student who feels confidence in his intellectual ability may relish an opportunity to display his competence. He attacks each test with zest and looks upon the entire experience as rather an exhilarating, competitive task. At the opposite pole are those students who respond to all tests with apprehension and uncertainty. Though reassurance may be attempted by the test administrator, often the fear is deep-seated and cannot be alleviated by a few well-chosen words. There are also those students who, because of repeated experience in taking tests, regard the requirement as just one more formality to be endured and under such circumstances, no great effort is made to achieve high scores.

Many other variables effect the student's ability to achieve results that are a true measure of his capacity. Students who feel that family expectations are far above their ability to achieve have been known to do less well than they are potentially able to do, hoping to use the test results as a means of forcing their parents to decrease their demands. Language difficulties based on a bi-lingual background, recent immigration, or lack of parental education tend to exert a limiting effect on linguistic competence and thus cause a deflation in test scores. By and large, however, the students most penalized in the test situation are those who are in a chronic state of anxiety due to concern over unresolved personal problems. These students are unable to concentrate for the long periods of time demanded by a test battery. One may say that the limiting factors mentioned do not pertain in a majority of cases. However, sound educational procedure demands that effort be made to determine the reliability of tests of the individual student, if results obtained are to be used for evaluative purposes. In addition, the student can derive great value from discussion of his test results with an understanding counselor.

Consensus of reports would seem to lead toward making tests results available to students. Tyler [*9*], Williamson [*10*], and Super [*7*], state that adequate interpretation of test results can be done only through individual counseling. The implication is that test interpretation involves more than communication of facts to students and includes awareness of the student himself, his orientation to reality and above all his readiness and ability to accept evaluation that might be derogatory to his self-concept.

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Supplementary Data Is Helpful

Short-term counseling is being provided in many colleges to help students to clarify their vocational goals through constructive interpretation of results obtained on entrance tests. Frequently the counselor has in his possession a variety of data from which he may secure clues as to the life situation of the individual student. A high school transcript is usually available. Often colleges require a personal data sheet from each student which includes questions concerning age, place of birth, family background, father's occupation, subject liked best and least in high school, jobs held previously, health history and vocational aims. From a careful perusal of these data a counselor can gain much information concerning a student prior to meeting him. For example, discrepancy between ability and achievement gained by comparing high school record and test results may be an indication of difficulty, since in most instances a healthy individual will produce in line with his capacities. An uneven high school record may suggest trouble in getting along with teachers, inability to concentrate systematically, too great an outside work load or reaction to upsetting personal experiences. Foreign background, health problems, lack of extra-curricular interests and other a-typical items in the student's record can alert the counselor to areas which need investigation.

General Principles of Counseling Still Apply

Therapeutic procedure requires that test results, objective though they may be to the statistician, be handled as personal data when discussing such results with the individual concerned. It must be recognized that test scores may have direct bearing on the self-concept of the student and should test results not fit in with his life plans for a professional future or place him in an inferior position with members of his family or close friends, the ego strength of the student can be seriously threatened. Awareness of the possible emotional reaction of the student and ability to help him face realities of the situation in a constructive manner requires great skill by the counselor, for decisions must be made regarding the degree of personal integration of the counselee which affects the counselee's ability to absorb unpleasant facts.

All general principles of counseling must be observed in this situation as fully as in any other counseling situation. The need for rapport is of utmost importance since the counselee must feel accepted and respected as a person before he will reveal his hopes, needs, and anxieties which condition his thinking concerning his abilities and goals. The counselor does not sit in judgment, nor does he urge any definite plan of action. Always he bears in mind his primary role of helping the student to make his own decisions. The counselor is continually aware that destroying confidence or self-respect does not yield constructive results and he knows that a wholesome acceptance of the nature and extent of one's abilities is one of the most difficult tasks in life.

The usual clues which a counselor looks for in posture, general bearing, gestures, mannerisms, facial expressions, mode of speaking, etc., can all play a part in giving insight into the person with whom he is dealing and will serve as a guide for interview procedure.

The First Conference

At a first conference the counselor after greeting the student may pause to allow the student to begin, but all too often the student at this stage is ill at ease and the counselor may help by asking what the student wishes to talk about or why he has come. Since many students begin by expressing an interest in test results, the counselor in such a situation may inquire why the student is interested or whether he is seeking answers to any particular questions. This frequently opens the way for expression on the part of the student as to doubts concerning his abilities, conflicts, or indecision about vocational aims, or uncertainties related to professional objectives urged by his parents. Examining such factors will help the counselor to gain some impression as to what the student hopes or

expects from his test results. If favorable, it is the rare person who cannot accept such results with an adequate interpretation of percentiles and their meaning. In the author's experience a favorable test score interpreted exactly does no harm. For example, a score at the eightieth percentile might be interpreted as exceeding that of 80 out of 100 students.

Unfavorable Results Require Cautious Interpretation

If the scores are near or below the midpoint, the approach to interpretation must be somewhat different and usually less definite. Many students are not ready to accept the implications of low scores and a direct interpretation might be traumatic. The skilled counselor may readily observe evidence of maladjustment such as marked self-consciousness, lack of masculinity or other symptomatic behavior but would never interpret such factors directly. Lack of ability to do college work, which may be the implication drawn from test results, can be just as damaging to the ego as a blunt statement of personality defect, and can produce negative or resistive reactions which may break the counseling contact.

If a general statement is made about unfavorable test results and the student is given an opportunity to respond to such interpretation, he may reply that he did not think the tests were important and so did not do his best. In some instances such a statement may be true and not merely a rationalization to explain poor results. In such a situation, a comparison of school record and test results can readily be a productive next step and may serve as a warning to the student that he will have to apply himself more diligently than he did in high school in order to meet the higher academic standards of college. Whether the student is rationalizing or not, such an approach allows the student to voice his feelings and helps the counselor to understand him.

Often such an opening elicits from the student a statement that he is not interested in college but his parents insist or the student may want a degree for financial or status reasons but be disinterested in study and have no comprehension of what he must accomplish in four years to earn a degree.

If a student exhibits great difficulty in accepting the implications of low test scores, the counselor may indicate that tests are not perfect instruments and possibly in this case do not reflect the real ability of the student. If the student has strong need to protect his ego, he is thus afforded opportunity to do so. Or the student may be one who, never having been challenged in high school has never really applied himself, and low test results will serve as a stimulus for more concerted efforts.

Relating Test Results to Vocational Goals

At some point professional aims will need to be discussed and the counselor may suggest that the student do some reading about vocations or take a vocational interests test. Such procedures lead naturally into further conferences and afford the student additional information about possible vocational goals, as well as allowing him to do further thinking concerning his problem. Since even the most skilled counselor cannot at the outset be absolutely sure as to the meaning of low test scores, both in terms of the student's ability and in terms of the student's perception, a follow-up after the first conference is a safeguard and will usually be worthwhile.

Conclusion

Test results are data which pertain to only one part of the personality. The counselor may interpret test results but only by gaining reactions to such results and by helping the individual to investigate the implications and integrate these implications into the total personality of the individual with his assets, liabilities, hopes, fears, drives and wishes, will the tests be used in a therapeutic fashion to serve the function of helping the student to gain greater self-knowledge and enable him to direct his life into satisfying, constructive channels.

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INFORMATION COLLEGES WANT ABOUT HIGH SCHOOLS

The Roslyn, New York, Board of Education believes that giving colleges the information they want about their secondary schools would improve the opportunities for well-qualified youth to be accepted in the colleges of their choice. An advisory committee designated by the Board sent a checklist to 625 leading colleges enabling them to indicate the factors which they considered significant in evaluating a high school. Replies were received from more than 80 per cent of the schools surveyed.

Sixty-six per cent of the colleges are interested in college records of graduates of recent years and in the percentage of graduates applying for admission to college; 60 per cent want to know about the college admissions record of graduates of recent years; and 41 per cent are interested in the college scholarships won by high school seniors. Eighty-five per cent want data on intelligence and aptitude test results, and 74 per cent want College Entrance Examination Board records of recent years.

Many of the colleges are interested in the school's curriculum, and guidance program. Seventy-two per cent want to know the number of students and the size of the senior class; 68 per cent want to know the nature of the school's curriculum, courses of study, specialization of subjects, and the kinds of special college preparatory courses for gifted students; 72 per cent believe the policies and practice of the guidance activities are significant, and 56 per cent want details on the college guidance personnel on the staff.

In evaluating high schools, 56 per cent of the colleges want to know the ratio of teachers to students, 42 per cent the teaching loads, 41 per cent teacher qualifications for appointment, and 52 per cent the adequacy of the facilities for a four-year, full-day single session program. Interest was also shown in extra-curricular activities: 70 per cent want to know about the types of extra-curricular activities, and 54 per cent about the degree of student participation.

The Roslyn Advisory Committee on Higher Education, which made the survey, is preparing an illustrated report on the secondary school program and the community embodying the information which college admissions officials indicated as being of interest to them.

TEACHING BEYOND THE CLASSROOM

CHARLES W. McCRACKEN

WHEN A STUDENT enters a university or college he expects and should have a personal and individual learning experience. Yet faced by large enrollments, closed circuit television, and methods that tend to depersonalize teaching, how can the educational community answer this challenge to individualization? Three methods are suggested to help overcome depersonalization of teacher and student relationships.

Teachers need to learn to teach outside the classroom and to relate in-class learning to student problems. Personnel workers are aware of the students' need to relate theory to practice and knowledge to life situations and realize that as students answer these questions they become either thinking, effective and happy persons, or frustrated and immature ones. Hence, the need for close cooperation between personnel services and teaching, for it is only through such coordination that all educative influences in the college community can be brought to bear on these choices and decisions which are so important to the students' future intellectual and personal development.

For example, a student who is struggling to reconcile his own values and those of the group with which he is associated writes the following protest to his fraternity:

> And so I find myself to be an active member of a group, some of whose principles I cannot accept as an active reflection of reality. The conflicts that have therefore occurred do not need detailing. I am aware that some of you have taken my desire for a freer and more substantial fraternity for a desire to confuse and upset. Let me assure you, those who so believe, that the attachment I feel to the group precludes any desire to undermine or destroy it. I blame you for nothing, but would only change those aspects of the system which allow omnipresent human weakness to function.

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Courses in citizenship and in values should help such students deal with his concept of himself, of the social group, and of his deeper loyalty to parents and to the welfare of larger groups. A course in citizenship provides a broad framework for understanding the conflicts of loyalties which arise in our society, but until this student has learned to apply these concepts to his own individual situation, he has not reached an adequate understanding of the material presented.

Questions reflecting the student's desire to understand himself and his role in society are endless. Should not these student problems be dealt with in the planned total educational process? Citizenship courses which place the student in adult political activity in which he is not emotionally involved do not utilize the dynamic influence that peer groups have over values and attitudes. Such courses may convince the student that it is wise to vote and to show him how to pull the voting lever, but the chances are that if the student does not feel a basic concern for the welfare of the members of the college community, he will not be a participant in adult political life after college.

Out-of-class activities provide for the further individualization in subject-matter areas especially for exceptionally gifted or interested students; in other words, these activities provide a laboratory in which students can pursue further the offerings of regular classes. Every college has many special interest groups and honorary societies, yet too often the main business of these groups is purely organizational—selection of members, election of officers, and getting the picture taken for the yearbook. Careful and frequent consideration should be given by teachers to these out-of-class activities to assure that their main contribution is in keeping with all-college objectives. For example, does the College

Union provide for further discussion of the regular curricula? Do activities make it possible for the student to clarify ideas through leisurely and prolonged discussions with teachers? Does the College Union provide an atmosphere in which the student can find a challenge to what is taught in the classroom? Are activities meeting real student needs or have they outgrown intellectual usefulness?

Teachers who actively study student out-of-class activities and living conditions and who utilize personnel services can find many opportunities to relate classwork and student needs and goals. A teacher in art can acquaint students with art through loans of pictures for residence hall rooms. Music, literature, creative writing, all can move out into campus life. Management and accounting courses have a natural laboratory through campus financial activities. Citizenship courses, values courses, and political science courses readily parallel campus problems.

The number and variety of out-of-class activities which surround any college is almost overwhelming. Here the student is faced with a real decision which he himself must make concerning what is valuable and what is not. He may join a special interest group, a religious group, a fine-arts society, participate in student government, serve on social or recreational committees, or read a comic book. What the student does when he is not in class or preparing for class may well serve as the best evaluation of the general goals of a college program.

Students Teaching Students

Students can and should be encouraged to teach other students. That students do teach and influence other students in all areas should be formally recognized in teaching methods. Science courses have long used students as laboratory teachers. Student residence counselors have demonstrated their effectiveness in teaching skills and attitudes, except where they are disciplinarians. In areas such as religion, moral values, ethics, social responsibility, aesthetic and intellectual appreciations, a younger student may be impressed far more readily by a mature student than by a faculty member. Not only could this be an economy in that it releases faculty and staff for more specialized duties but in some instances it is more effective. It is the obligation of the college to see that those students whose attitudes most closely parallel the goals of the college be given support and encouragement in their relationships with younger students.

The more mature student can also profit greatly from such a program. Not only do they have the experience of helping teach skills and values to less mature students but they clarify and crystallize their own ideas. If, for instance, a student who writes regularly for a literary magazine teaches literary skills or criticism to another student, he advances himself. If a mature student attempts to explain the college educational objectives to an incoming student he clarifies his own understanding of those objectives.

An example of student effectiveness can be found quite often in residence programs which are staffed by students. A student counselor is confronted daily by freshman questions on the meaning and purpose of a particular course and for aid in developing study skills. Teachers seek out student counselors in order to determine student reaction to classwork. Student counselors also bring faculty into residence units for sessions on intellectually significant topics.

Also, student government should be concerned with its potential educational role, that is, its ability to help student teach student. A Freshman Seminar plan which is being offered during the 1956 fall semester to freshmen by the Allegheny student government is an interesting example. The following excerpts are from an early description of the plan.

> Upperclass students of good academic standing and intellectual ability are serving as discussion leaders for small groups of interested freshmen. The seminars are held in informal surroundings. Each group meets with two upperclass students and, occasionally, with a faculty member. The sessions are of an hour duration and are scheduled at a specific time every two weeks. Approximately seven seminars are planned each semester.

The student leaders meet every other week to discuss the seminars which they will lead the following week. Small groups of professors serve as resource material . . .

Topics selected by the students range from current political issues to thoughtful passages from great books. The seminars will center around questions and areas of interest that are especially intriguing to the participants. Students, by analyzing what freshmen find meaningful during the year, are able to supply information which is utilized as a base for the program material.

A general field of interest is narrowed to a specific topic which is fully explored and the ideas it contains discussed. The scope and limits of each discussion are set by the freshmen as much as possible. From the early problems related with analysis, problem formation, and understanding ideas and skills which are meaningful to all should develop.

A careful effort not to lose the freshmen at the beginning, however, and have them dropping out before they find any value in the program, includes a large degree of reliance upon the freshmen themselves to carry the early discussions. By using personal experience, freshmen will begin to think in terms of relationships. Beginning with those at home, they will turn into the new relationships of their college life. An attempt to define a term is recommended as one means of opening a discussion . . .

The program is flexible, allowing the interests of the freshmen in each group to develop. The feeling of informality is aided by meeting in faculty homes, the College Union conference rooms and in the various seminar rooms on campus.

The presence of the upperclassmen utilizes: the process of student educating student and permits the freshmen to benefit from a student who has recently developed the skills and orientation for which the freshman is striving. The upperclassmen also gain insight into the learning process. Both the freshmen and upperclassmen carry their seminar experience back to the whole student body and thus further the stimulation of thought in the entire college community.[1]

This program which was student inspired and will be student led plans to make use of faculty for resource leaders but will depend primarily upon twenty student leaders. These leaders are now conducting ten seminars of eighty to one hundred freshmen. Excerpts from Shaw's *Man and Superman* and Plato's *Republic* were discussed in the first two seminars. These students recognize their obligation to support actively and meaningfully the educational function of the college.

In the organized activities program can be found many other examples of student teaching student. Students who are able and willing to work closely with classroom teachers as tutors and as organizers and leaders of intellectually and culturally significant activities should be given the freedom and encouragement to do so.

Community Government as an aid to Learning

A community-government type of campus organization is a step toward greater teaching effectiveness and learning efficiency. This type of organization signifies a desire of the teachers and administrators to take the students into full partnership in the educational goals of the school. This partnership not only includes students and student groups in planning and evaluating their educational experiences, but encourages the student to help teach other students. Furthermore, a community government easily parallels the administrative pattern and academic organization of the college, especially in general education areas. This makes it easier to establish teaching relationships between teachers and out-of-class activities.

The traditional division of the college governing structure into separate faculty, administration, and student committees interferes with a close relationship with students. At times the student seems to feel that he is caught in a situation which neither he nor his teacher likes. Such separateness enables a student to shift responsibility to others and often encourages teacher and student antagonism. The student finds himself safe from the challenge of immediate decision about values which he needs to consider in facing life. He is "safe" (as an individual) because of the

[1] Excerpt from description prepared by Max Schoenfeld, Chairman, Student Academic Committee, Allegheny Undergraduate Council, 1956.

teacher's limited range of movement on the campus, and the lack of flexibility in the college classroom. However, the student really does not want to avoid challenge; he would welcome the teacher's help outside the formalized class schedule. Community government also provides the organization means and communication with students to secure campus support and participation in intellectually significant activities.

An all-college type of organization insures continuity of information and procedures, especially because of the tie-in with the more stable in-class planning. For example, the use of economics or accounting students to study the continuous operation of the fraternity financial program is an experience that benefits the student. He would be dealing with a real problem—complete with all the complications of human relationships—and would be aiding the college community at the same time. In the field of moral, social, and ethical values, the possibilities are even greater; development of citizenship skills, resolution of minority group issues, the study of religious issues and problems, ethics—cheating on exams, responsibility for foreign students, international programs, aesthetic experiences in dramatics, music, art, and writing, can be accomplished only by the combined efforts of all members of the college community.

Finally a democratic atmosphere is necessary for any community organization and so as student, faculty and administration work together toward common goals, students must have responsibility in proportion to maturity and skill. An administrative framework which encourages and ensures common effort in the development of the educational program should motivate students and faculty to creative workmanship and to higher intellectual goals.

WAYNE STATE UNIVERSITY INVITES A.P.G.A. MEMBERS TO PRE-CONVENTION CONFERENCE

APGA members attending the Association's National Convention in Detroit April 14–18 are invited to come a day early for the Pre-Convention Conference April 13 at Wayne State University.

The Conference's theme "New Directions in Guidance" will be discussed by APGA President Clifford Froehlich at the one o'clock luncheon in the University's Student Center. Also on the luncheon program is a preview of the APGA Convention by Stewart Hulslander, Program Coordinator.

"Guidance—A Team Approach" and "The Influence of Ego Psychology on the Guidance Movement" will be discussed in the morning session of the Conference by, respectively, Francis C. Rosecrance, Dean of the College of Education, Wayne State University, and Mildred Peters, Department of Guidance and Counseling, Wayne State University. These two talks will be followed by discussions groups.

Registration for this Pre-Convention Conference will be at the Detroit Institute of Arts from 9:00 to 9:30 A.M. The Conference is being sponsored by the Wayne State University Department of Guidance and Counseling in cooperation with: Division of Guidance and Placement, Detroit Public Schools; Division of Student Personnel, Wayne State University; Secondary School Improvement Committee, Metropolitan Detroit Bureau of Cooperative School Studies; and Employment Service Division, Michigan Employment Security Commission.

In-Service Training

BARBARA KIRK, Editor

A Business Fellowship

VIVIAN H. HEWER

THE VOCATIONAL counselor must have a realistic understanding of employment requirements, yet current training programs for counselors in universities very often make little provision for this part of a counselor's training. Job responsibilities in many of the professions, such as medicine, education, and dentistry are fairly well standardized and easily comprehended. For the graduate in business administration, however, the variety of available employment and avenues of promotion are frequently not clearly understood by counselors.

It was for this reason that I was particularly pleased to have received a fellowship awarded through the Foundation on Economic Education, Irvington-on-Hudson, New York, with the Bank of America in San Francisco. The Fellowship was awarded for a six week period during the summer of 1956 and the cooperating industry made provision for expenses incurred during the visit. Since the Director of the Student Counseling Bureau at the University of Minnesota encourages the counselors to participate in activities which will enrich their backgrounds, I encountered no problems in arranging to take time from my work. Should other student personnel workers in colleges be interested in these fellowships, it would seem time from their jobs could be arranged through the use of a short leave of absence or vacation time.

I had hoped to accomplish three objectives when I applied for this fellowship; the first was to observe opportunities for college graduates in banking so as to understand the lines of promotion, in-service training, salary levels, and the kind of academic education desired for this employment; the second, to gain an understanding of the over-all functions and operations of a bank; and the third, to learn something of the general economy of California because of the heavy migration into this area. Obviously, since a bank is completely involved in the economy of a community and the Bank of America in the total state, the latter objective was particularly well fulfilled, and the other two very satisfactorily so.

During my stay at the Bank I was assigned to the Director of Staff Training. Although the majority of my time was spent in the Personnel Department, during the second week of my stay I was assigned to a branch. While at the branch, I was given an opportunity to observe the work of savings and commercial tellers, check sorting operators, bookkeepers, and lending officers. These are key jobs within the operation of a bank and, except for lending officers, are frequently considered entry jobs. There are nearly 600 branches of Bank of America in California and the operation I observed was considered typical.

The administrative or staff operations of the bank are located in the headquarters office in San Francisco, and it was here that I observed the major divisions of the Personnel Department. For example, I spent one week in Employment, observing interviews, which were directed largely at filling entry jobs, and the testing program, which was for beginning clerical jobs. In the Job Classification Division descriptions of all jobs within the Bank are written. These are a basis for establishing salary levels and for job evaluation. It was here that I got the clearest view of the over-all organization of the Bank and the educational and skill

VIVIAN H. HEWER is with the Student Counseling Bureau at the University of Minnesota, Minneapolis, Minnesota.

levels required for the various jobs. Salary, Merit Rating and Employee Benefits were other major operating divisions of the Personnel Department where I spent time.

There are also individuals who carry responsibilities somewhat similar to those of counselors. They are assigned to and visit various branches within the state, and all employees are given an opportunity to discuss with them any problems they might have with regard to job responsibility or personnel difficulties. The Research Division of the Personnel section is concerned with a variety of problems, such as, employee attitudes toward the Bank, attitudes of retired persons, testing evaluation, and employee turnover.

In order to give me a broader view of the total functioning of the Bank, I spent time in the Bond-Investment Division, the International Banking Department, the Timeplan Loans, and the Controllers Office. Although there were major administrative divisions that I did not visit, I was given a clear understanding of their functions through job specifications. In all of these departments the supervisor explained the functions to me, allowed me to observe jobs where this was feasible, and encouraged me to inquire freely about those things I did not understand.

The total experience was extremely valuable to me. In listing my objectives, I have already referred to the kinds of information I had hoped to find and did find, and the use of such information in vocational counseling probably needs little explanation. The fellowship, however, did more for me in that it not only provided a change from the routine of counseling and was a refreshing experience, but it also stimulated me to inquire with more sophistication into similar industry in my own area. Others who may be interested may wish to inquire from the Foundation on Economic Education, Irvington-on-Hudson, New York, about the availability of these fellowships. I feel deeply indebted to the Bank of America for the opportunity they extended me to participate in the fellowship, and for their gracious cordiality while I was there.

INSTITUTE IN SURVEY RESEARCH TECHNIQUES OFFERED THIS SUMMER

The Survey Research Center of the University of Michigan will hold its Annual Summer Institute in Survey Research Techniques for the tenth consecutive year. The regular session of the Institute will be held from July 22 to August 17 with an introductory session from June 24 to July 19. During the regular session three courses will be offered which can be elected for graduate credit: Workshop in Survey Research Techniques, Methods of Sampling in Survey Research, Survey Research Methods. The courses given in the introductory session are Introduction to Survey Research, and Analysis of Survey Data.

This special program is designed to illustrate the theory and application of survey research to such fields as psychology, sociology, business and human relations, public health, political behavior etc. and to meet some of the educational needs of those working in these fields. For further information write to the Survey Research Center, University of Michigan, Ann Arbor, Michigan.

Letters

from our readers

A Postscript to "Tests and 'Tests' "

To the Editor:

In a recent copy of this *Journal*, the writer pointed out that popular press "tests" are probably without any value whatever and may actually be harmful. The paper presented validity data on two such instruments.

More recently in another psychology class the writer had the opportunity to accumulate additional data on the same and additional tests.

Most interesting are the test-retest reliability data given in TABLE 1. Although there were but ten cases, the results are at least suggestive.

TABLE 2 presents some results related to validity, which underscores these pseudo-tests' lack of value.

TABLE 1
Test-retest after 21 days

N-10

	Rho
Test of Horse Sense (Practical Information) [3]	0.44
Inventory of Intelligence [2]	0.58
Inventory of Rejection [1]	0.80*

TABLE 2
Some comparisons between selected tests and "tests"

Variables	N	Rho
Short Employment Test [5] and Inventory of Intelligence (Verbal)	27	—0.40
" " (Numerical)	27	0.08
" " (Clerical)	31	0.06
S.E.T. (Verbal) and Test of Horse Sense	27	0.29
" (Numerical) " " "	27	—0.10
" (Clerical) " " "	31	0.52
Inventory of Intelligence and Horse Sense	27	—0.002
Inventory of Intelligence and Bell [4] Total	27	—0.25
Horse Sense and Bell Total	28	0.18
Inventory of Rejection and Bell Total	26	—0.22

* The size of this coefficient is misleading since the scores on the first administration ranged from 0 to 9 with six zeros (ties in rank); and the scores on the second administration ranged from 0 to 12 with six threes (ties in rank).

References

1. Carr, Wells. Know thyself: do you feel rejected? New York Post, June 9, 1956.
2. Carr, Wells. Know thyself: do you underestimate your intelligence? New York Post, August 11, 1954.
3. Crane, George W. A vocational guidance kit, including a test of horse sense, introvert-extrovert test and letter of application. Mellot, Indiana: The Hopkins Syndicate, not dated.
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Mental Health in the Deep South

To the Editor:

In 1952 the taxpayers of Ascension Parish, under the leadership of Dr. Penn St. Amant, voted a half mill tax for mental health. (It is believed that this is the only rural area with such a tax.)

Dr. Paul Young, head of the psychology department of Louisiana State University, was hired to make a survey of the problem and to serve as consultant planner. He not only made plans but also worked to ready parents, teachers and children for a mental health program. It was determined that the mental health program should be anchored with some other public organization, and the schools were chosen as the place to start. A director for the mental health program was hired—one who had an educational background as well as the qualifications to do mental health work. The program was planned to meet the needs of the general public as well as the schools. Office hours were kept one day a week for the purpose of serving the public; the other four days were spent working in the schools.

The schools of Ascension Parish were aware of the need of a mental health program and proved this by immediately offering many new personal services to students. This mental health program has been primarily a preventive program in the schools and has for its objective the adjustment of the individual. Since guidance has these same objectives, the term guidance was used in the schools instead of mental health. Before school in September, a guidance clinic was held for the principals and teachers from lower elementary, upper elementary and high school. The State Supervisor of Mental Health Education and the State Supervisor of Guidance made the clinic a practical learning situation where feasible goals were outlined in detail.

The teachers who attended the clinic actually served as mental health directors or guidance

counselors in the schools at three levels. Some of the services offered in the different schools were: (a) personality classes (sixth grade level), (b) testing programs, (c) individual inventory files, (d) counseling services, (e) evaluation of reading levels and change of textbooks, (f) guidance bulletin boards, and (g) the formation of a parish-wide guidance association.

Probably the greatest value of tieing the mental health program in with the school has been achieved with parents who were disturbed about children whom they did not understand; this was particularly true when parents were overambitious or overprotective. The interaction of the parents and the school resulted in a better understanding of the child by parent and teachers. Teachers also detected some seriously disturbed children, who were referred to institutions.

Three current projects under the mental health program are the choice of criteria for a mental health award for graduates, the formation of special classes for the mentally retarded, and the organization of a local chapter of the Mental Health Association.

The next step probably should be in the direction of securing matching funds from some agency so that therapy may be done at the local level. The people of Ascension Parish were ready for a mental health program, they have used the services offered and would welcome more services.

PERRY L. DAVIS
Director of Mental Health
Ascension Parish
Donaldson, Louisiana

Counselor's Ten Commandments

To the Editor:

This summer while teaching a course in Techniques of Counseling I became more and more aware of the need for a short summary of the professional counselor's philosophy. To this end I wrote the following "Ten Commandments:"

1. Thou Shalt Be Humane.
2. Thou Shalt Keep an Open Mind.
3. Thou Shalt Not Operate Alone but Shalt Strive to Bring Other Colleagues into the Guidance Program.
4. Thou Shalt Strive to Know and Understand Others and Help Them Understand Themselves and Their Environment.
5. Thou Shalt Be Acquainted with Various Fields of Endeavor and the Community Resources at Thy Disposal.
6. Thou Shalt Be Patient and Willing to Aid in Professional Growth of Colleagues.
7. Thou Shalt Keep Personal Information Confidental but Shalt Aid Colleagues in Gaining Information Which Will Aid Them in Their Positions.
8. Thou Shalt Keep Thy Own Personal Values and Opinions Out of Counseling Relationships
9. Thou Shalt Recognize Thy Own Limitations and Thereby Make Referrals Whenever Someone Else Might Be of Greater Assistance.
10. Thou Shalt Be Free of Prejudices and Willing to Work Professionally with Any Regardless of Race, Creed, or Color.

JOSEPH W. HOLLIS
Ball State Teachers College
Muncie, Indiana.

REPRINTS OF MULTI-FACTOR SERIES

The Multi-Factor Series consisting of the eight articles on as many tests and the introductory and a summary article by Dr. Super will be made available in a separately bound booklet. Orders for the booklet will be accepted now. Single copies $1.00 each; orders of 10 or more at a discount of 10 per cent plus mailing.—Ed.

From the Executive Secretary . . .

This is budget time. Like most families, the APGA family has persistent and nagging financial problems. I believe you should know the realities of the situation.

Financial History. During its first year, the Association was able to build up a surplus through holding down operations and services. The decision to carry on a minimum operation was wise at the time, but the practice could not continue because the Association would, of course, have deteriorated. For the next two years, the budget ran in the red; the reserves were drawn upon and reduced to $14,000.00. Last year we were determined to end up in the black, and we did. This year we are equally determined, and with good fortune we will succeed.

Present Financial Status. Let me tell you how serious is APGA's financial status. The best illustration is our situation on May 1, 1956. True, we got through the year without dipping into the reserves, but we had nothing to carry over into the next year. In order for us to meet the May 1 bills, the 1956 Convention had to advance $3,500.00. This is a sad way to begin a new fiscal year.

A further description of the current financial status is this: *the reserves of APGA would carry the Association for only two months.* When you consider that it is sound financial practice for a head-of-family to have a year's income in reserve, the seriousness of APGA's financial position is apparent.

Current Financial Conditions.

No. 1 fact, as in any family today, is that costs are rising. The *Journal*, for example, has had two rate increases in paper or printing in as many years. Practically all supplies and services cost more than they did two years ago.

No. 2 fact is also similar to family events. When new members enter the family, costs rise. APGA's increase in membership and accelerated professional activities are both vital to a strong, vigorous professional society. However, they both cost money.

Practices Affecting Finances. As we become more mature, we are becoming more substantial in ways other than financial. These practices we think are sound and are building a strong organization:

1. The staff is kept to a minimum but the minimum is a group of very capable, devoted people.

2. Salaries are being raised to keep and attract the best. Last year the staff was cut and salaries were raised to approach a little closer to current salary standards. Several still are not up to the proper point. This year, with increased demands, it has been necessary to increase the staff slightly. That it is less expensive to have better paid, capable people has been proved in several cost comparisons we have made.

3. We are introducing better equipment as rapidly as possible—and this is mighty slow. The savings through proper equipment are illustrated by these two events: (a) In producing the Directory of Members, our ownership of an electric typewriter saved $175.00; (b) an automatic sealing and postal meter machine reduced the cost of mailing election ballots by about $75.00.

The Future. This has been a brief view of the APGA family finances. We are a great, professional association, highly respected and looked to by many parts of our society for leadership. Although we receive help for our professional work, nevertheless we cannot expect outside help for our housekeeping. This we have to do ourselves. While other professional societies have raised their dues—some several times—during the past four years, APGA has not. Now we are at the point of extreme need. To face our responsibilities of the future squarely, we—our Association—need: (1) A larger operating budget; and (2) Reserves commensurate with our financial obligations.—Arthur A. Hitchcock

notes from

OUR BRANCHES

Long Beach, Florida

The Long Beach Personnel and Guidance Association proudly reports "We have more members than ever before."

Emphasis in recent Long Beach meetings has been on keeping members abreast of current developments in the field. February's dinner meeting was organized around "Keeping up with New Materials" and featured a review by Louis Stacker of a new guidance book, a tape recording from the University of Texas series "The Emotionally Disturbed Child" presented by Jack Matlock, and a film on vandalism presented by Clifford Liljekvist. In March Earl Carnes, Chairman of the department of guidance of the University of Southern California, spoke on recent research in guidance with emphasis on specific developments in the local area.

Northeastern Ohio

The Northeastern Ohio Vocational Guidance Association had the opportunity to study one of the nation's biggest industries February 28 when they visited the American Gas Association's laboratory. They were the dinner guests of the East Ohio Gas Company. NEOVGA was represented by Helen Randall, Executive Secretary, Occupational Planning Committee, Cleveland Welfare Federation, on a panel discussing "Challenge to Women in the Professions" at Western Reserve University.

District of Columbia

"Reading Improvement and Related Abilities" was the topic at a recent National Capital Area Personnel and Guidance Association discussion. The four panelists brought together the experience gained by one in working with children, by another in teaching college probation students, by one in teaching average adult readers how to increase their speed, and by an optometrist. Eva Mahoney, Director of the Reading Clinic at Georgetown University, said the children referred to the clinic fall into four categories: (1) children with poor language background; (2) visual inadequacies as a cause of reading difficulties; (3) emotional problems producing reading problems; (4) children in need of a particular kind of instruction, *e.g.*, auditory instruction.

Over 800 probational students with poor high school records are referred to George Weigand's courses at Maryland University. His program, he told the group, emphasizes skills and retention rather than speed of reading. The students are taught how to handle lectures, the importance of review and recitation, the difference between reading and study.

Edmund Fulker, Director of HQ, USAF Reading Improvement Laboratory, helps top ranking officers and civilians acquire speed—those in his class average four hours daily reading on their jobs.

Robert Kraskin, the optometrist, pointed out that people with 20/20 acuity do not necessarily have good vision for near-point work. The usual Snellen chart examination may miss up to 85 per cent of school children with such near-point vision problems. Dr. Kraskin cited a study made in Texas which found that 80 per cent of the fifth grade students had visual difficulties, many of which could only be detected with a more rigid test than the Snellen.

Correction: In the article on "Fellowships, Scholarships, and Assistantships for Guidance and Personnel Graduate Training" by George D. Changaris, January issue, VA Traineeships at the University of Minnesota (p. 320) are listed as $3,670 half time and $5,400 full time. Both figures are full-time equivalents and depend upon the year of graduate work of the student in the program. The work load averages one-half time.

Books Reviewed

reviews of recent publications . . . by various authors

THE TEACHER AS A GUIDANCE WORKER, by Ira J. Gordon. New York: Harper & Brothers, 1956. xi + 350 pp.

THIS IS MORE of a handbook on the sub-title "Human Development Concepts and Their Application in the Classroom" than a detailed discussion of the teacher's role as a guidance worker. The survey characteristic of the book is emphasized by the author's statement, "This book is organized to be used in conjunction with actual first-hand experience in observing a child in a group setting through at least one semester's time" (p. 11). This reviewer counted fifty-four listings on various topics. These listings, together with carefully interwoven quotes from numerous sources, give the book all the earmarks of a handbook format.

The many listings and questions, illustrative rather than exhaustive, should provoke the reader's thinking. Through these questions, the author again and again emphasizes the need for the teacher to study students.

The human development concepts and the principles involved in the use of guidance techniques are basic and global. Specificity for both is gained through such questions as those concerning cumulative records: "What information have they (school personnel) considered it significant to record? What grading systems have been used? What remarks about youngsters are included?" (p. 111).

The first section of this book is devoted to a cursory discussion of the meaning of guidance. This discussion is followed by a chapter on the scientific method to be used in studying students. It is difficult for this reviewer to believe that in eleven pages "The Meaning of Guidance," "The Role of the Teacher," "Guidance and Curriculum," and "Teacher Qualifications for Guidance Work" can be treated adequately, thus, laying the foundation for the remainder of the book.

Chapter 2 provides the reader an outline of the scientific approach to understanding human behavior.

Part II is divided into four chapters which are devoted to a discussion of human development concepts related to "The Child as a Growing Organism," "Understanding Community Forces," "Contribution of Peers to Self-Development," and "The Child's Self." The author's discussion of the growth and development of the child, although sketchily done, should accomplish two objectives. It should remind the reader that the physiological individuality of the child is a key factor in learning, and that the Wetzel Grid is a different way to indicate child growth trends.

Understanding community forces is a miniature sociological treatise. It may serve to remind the reader of the complex milieu in which the pupil finds himself. This reviewer thinks that the chapter content will serve as a check list for a teacher in determining his understanding of the community forces impinging upon the pupil. A separate chapter highlights the relation of peers in the child's community to the child's self-development.

"The Child's Self" shifts from the self to principles of learning. Fourteen principles of learning are listed, but they receive a minimum of discussion. The brevity of the discussion on techniques of studying the child points up the danger of oversimplification.

It is in Part III—"Implementation"—that the author devotes three chapters to a discussion of the teacher as a guidance worker in the "several key roles" of group worker (chap. 7), as an individual counselor (chap. 8), and as an action researcher (chap. 9). The chapter "The Teacher as a Group Worker" is the best of the book. Perhaps it reflects the author's more extensive experience in this area. Here he discusses the nuances of the dynamic interaction within groups. Of particular help to the teacher will be the author's presentation, "The Choice-Enabling Process" (pp. 228–231).

Recognizing that "many professional counselors resist the notion of the teacher's functioning as a counselor" (p. 265), the

Based directly on the problems of youth today, *Points for Decision* offers material for discussion which will help 11th or 12th grade students solve their problems.

Points for Decision

Harold J. Mahoney
Chief, Bureau of Pupil Personnel and Special Education Services, Connecticut State Department of Education

T. L. Engle
Associate Professor of Psychology, Indiana University, Fort Wayne Center

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author proceeds to discuss his view that the teacher *does* function as a counselor.

This reviewer agrees that the teacher is not ancillary in the counseling process. But to attribute to the already multiple role-playing teacher the role of counselor, does not, in its best professional sense, make it any more possible for the teacher to be a counselor than it does for the parent to be a medical doctor merely on the basis of administering an aspirin.

The last chapter analyzes the teacher as an "action researcher." This chapter should serve to stimulate the teacher to think through the possibilities of teacher research on guidance concerns within the classroom.

If used as the author stated above, this book should be a definite aid to the teacher in his role as guidance worker. The reader should be alert to the sweeping coverage of many important topics with only the bare minimum of information. The readings at the end of each chapter are representative of many excellent works which should be used to complete the discussion on the many topics noted in this book.—HERMAN J. PETERS, *Associate Professor of Education, The Ohio State University.*

THE COLLEGE GIRL LOOKS AHEAD TO HER CAREER OPPORTUNITIES, by Marguerite Wykoff Zapoleon. New York: Harper and Brothers, 1956. 272 pp. $3.75.

THIS BOOK presents an overview of occupational possibilities that a girl planning to attend college or one already in college, may well consider before making significant decisions. The principal fields of work of women college graduates are described in 13 of the 15 chapters of the book. The following chapter headings indicate the fields covered: Homemakers; Educators; Secretaries and other Clerical Workers; Medical and other Health Service Workers; Musicians, Artists, Actresses and other Entertainers; Social and Religious Workers and Counselors; Home Economists; Writers, Editors, Linguists, Librarians; Occupations in Business; Government Workers, Politicians and Lawyers; Social Scientists; Natural Scientists, Engineers and Architects; Occupations in Transportation, Broadcasting and Agriculture. Some of the smaller fields of work for college women are grouped on the basis of certain similarities such as the type of employer in the chapter on government or on the basis of duties and knowledge required as in the chapter devoted to social sciences.

In each chapter devoted to the broad fields of work, the author first describes the distinguishing characteristics of the field. This is followed by a summarization of the talents required for successful performance in the area. Three additional sections relate to how one should try out and prepare for the field of work as well as how to enter the field. Following this discussion for the broad areas of work as a whole, the main specific occupations found within each one are briefly described. An illustration in the chapter on "Educators" specific occupations considered are the elementary and secondary school teacher, educators of exceptional children, adult educators, physical and health educators and recreation workers, college teachers, administrators, and other leaders in education and student personnel work.

The first and last chapters of the book are devoted, in the main to a general orientation to vocational planning and suggestions for choosing a vocation. Important but brief sections in the last chapter on "Looking Ahead" offer suggestions for relating an occupational choice to that of a husband's occupation and to the other typical roles found in a woman's life.

The book is clearly written, carefully organized and comprehensive. The author, from her varied and rich years of experience devoted to occupational activities of women, has presented a vast amount of current information about occupational opportunities for college girls. The book is recommended reading for all girls who wish to enter college or those who are already pursuing a training program at the college level. Parents of girls who plan a college career likewise will profit from having access to this book. It should be in the library of any high school or college counselor working with young women about to enter college or with those already in a college setting. Because of its compactness the book will be particularly valuable to a girl at the exploratory stage of planning a career. At the end of each chapter devoted to a field of work there is a carefully selected up-to-date listing of names and addresses of professional organizations from whom additional occupational information can be secured.—WILLA NORRIS, *Assistant Professor of Guidance, Michigan State University, East Lansing, Michigan.*

THE OBJECT RELATIONS TECHNIQUE, by Herbert Phillipson. Glencoe, Illinois: The Free Press, 1955. Pp. x + 224.

THIS BOOK introduces a new projective technique consisting of three series of four pictures and a blank card. Each of the series presents four *object relations situations:* a one-person, two-person, three-person, and a group situation. The situations are varied in the three series in relation to

MULTIPLE COUNSELING

A SMALL-GROUP DISCUSSION METHOD FOR PERSONAL GROWTH

by
Helen Irene Driver, Ph.D.
with a foreword by
Annette C. Washburne, M.D.

This counseling method combines small-group discussion activity with individual counseling. Its success confirms research findings that a combination of group and individual counseling is more effective than either method by itself.

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ENDORSEMENTS

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Mental Health Education
Louisiana State Education Dept.

"It has much to recommend it, especially from the standpoint of that little understood procedure, small group guidance . . . I feel Dr. Driver has made a real contribution in this book."
Harvey A. Heintzelman, Chief
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reality content and reality context. Thus, the "A" series contains figures drawn in light charcoal shading "giving a quality of texture" like that of card VII of the Rorschach and there is no definite setting in terms of objects of the physical world. There is little or no reality content other than human figures. The "B" series has human figures drawn in much darker shading, still in charcoal to provide depth (Card IV and V of Rorschach). The figures are in conventional, but ambiguous, physical environments, two of them being indoor and two outdoor situations. The "C" series consists of figures drawn in soft, light or medium line, more mature and lifelike, though still ambiguous. They are placed in conventional physical environments which are drawn with much detail and fullness and in color designed to "present a strong emotional challenge as with the colored cards in Rorschach." The pictures and blank card are presented to the subject with the directions to look at each one and imagine what it might represent, to make up a story about it, etc., as with the Thematic Apperception Test. This is followed by an inquiry covering four important points.

The author presents a rationale for the technique, which differs in important respects from Murray's needs-press theory, and is derived from constructs developed particularly by British psychoanalysts in the theories of unconscious object relations. The major theortical hypothesis is that personality dynamics derive from "the individual's need to impose upon the persons and things of his external world those unconscious relationships between himself and the figures of his internal world which have resulted from his early experience of the objects upon which he depended for the satisfaction of his primitive needs." The point is made also that "personality dynamics in terms of object relations are reflected in the processes of perception."

The book includes one lengthy, detailed case study, analyzed and interpreted by the author and six briefer case illustrations. Normative data on a sample of 50 psychiatric out-patients and 40 normal adolescent girls is presented. The publishers state that the pictures used in this technique are particularly suitable for the use of "experienced psychologists working outside the clinical field, in social research and in *personnel selection in industry and elsewhere.*" This opinion is based on the author's experience with the test over a period of five years. Unfortunately, the data presented while highly interested and pertinent for the clinical worker does not bear on the possibilities in the fields of personnel selection and guidance. This is not to say that there may not be potentialities in that direction.

The strength of the *Object Relations Technique* lies in the fact that it was constructed to conform to a carefully stated theoretical rationale of a rather precise nature. Since this rationale is essentially a psycho-analytic one—the *psychoanalytic theory of unconscious object relations*—it offers the possibility, like the Blacky Test, of another means of verifying or testing out psychoanalytical concepts. Research along such lines as, for example, the prediction of transference phenomena for individuals, and of interpersonal relationships, could well utilize these pictures. Whether they would, however, be any more useful in the fields of personnel selection and guidance than other projective techniques must await further research and accumulation of data with this method in suitable contexts.—SAMUEL B. KUTASH, *VA Hospital, East Orange, New Jersey.*

EXPANDING RESOURCES FOR COLLEGE TEACHING, edited by Charles G. Dobbins. Washington, D. C.: American Council on Education, 1956. ix + 140 pp. $1.50.

EXPANDING RESOURCES FOR COLLEGE TEACHING reports on a conference on college teaching sponsored by the American Council on Education. It deals with the problem of finding more ways of recruiting, conserving and utilizing United States resources in college teaching.

In America we are experiencing shortages in many categories of specialized personnel. College teachers are one of these. Counselor-trainers, for instance, are in short supply.

The problem of recruitment is a problem of many facets—people to teach in graduate schools, professional and technical schools, liberal arts colleges, and junior colleges. Half the colleges are doing little or no planning to meet teacher shortages. This is in spite of the fact that the problem is not a temporary but a long range one due to extend 10 to 15 years.

The recommendations from the conference make the most worth while reading in this book, which also includes a profusion of irrevelancies and marginalia reported by members of the conference that could well have been edited out. In fact, their infusion only lends in distracting the reader from the contribution the volume does make.

Some of the major ideas are summarized as follows:

1. Colleges are in competition for scientific personnel and can't sit back and take what is left. They have to get "into the competition." That college teachers, by their attitudes toward their profession, and by upgrading it financially and otherwise, can play a major role in solving the need for superior teachers.

2. There is need to identify the young people who have the "intellectual capacity, the personality, and the character" for college teaching and to encourage them to try it. The report urged that the limitations as well as the challenge of the profession be dwelt upon.

3. "Recruitment" seems to be a dirty word among teachers and "this attitude of constraint" must be changed if teaching is to compete successfully for talent.

4. One way to get teachers is to break down the barriers keeping women from university and college teaching.

5. Teaching assistants on both undergraduate levels and graduate levels are a good recruitment potential.

6. Such factors as slow promotion due to arbitrary quotas of full professors, heavy demands for publication and lack of secretarial help and office space were seen as discouraging prospects.

7. A chief handicap to recruiting college teachers was the realization of the bright people involved that they could earn much more by doing other things. This is a hard thing to beat in our culture.

Some ways of holding present faculties are suggested in a concluding portion of the book. They are the usual ways AAUP committees have urged upon administration for years.

The conclusions of the book might serve as good focal points for faculty discussion in colleges. The stress on "recruitment" will make counselors sit up and take notice. —WILLIAM D. WILKINS, *Professor of Education, New York University*

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